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CONTENTS.

PAGE

An Analytical Synopsis of the Natural History of Man. By J. C. HALL, M.D. vii

CHAPTER I.

Enumeration of the Races 1

CHAPTER II.

Explanation of the Map 4

CHAPTER III.

The Mongolian Race—Brazil—Patagonia—The Antarctic or Magellanic Watermen—Chili—Peru—The Northwestern or Aleutian Watermen—Interior Oregon—Southwestern Oregon—Mexico — Yucatan — Northeast America — The Chinese — Other Mongolians 6

CHAPTER IV.

The Malayan Race—Polynesians of the Coral Islands—Of Taheiti —Of Samoa—Of New Zealand—Of Tongataboo—Of the Hawaiian Islands—Other Polynesians—Californians—Mexico and the West Indies—Micronesians—Japanese—The East Indies—The Indo-Chinese Countries—Madagascar—Other Malayans . 44

CHAPTER V.

The Australian Race 139

CHAPTER VI. PAGE

The Papuan Race—The Feejeans—Other Papuans . . . 146

CHAPTER VII.

The Negrillo Race—The New Hebrides—The Nitendi Group—The Solomon Islands — New Guinea — Luzon — Sooloo — Other Negrilloes 175

CHAPTER VIII.

The Telingan or Indian Race—Eastern Hindostan—Western Hindostan—Madagascar 180

CHAPTER IX.

The Negro Race—Colonial Negroes—Eastern Africa—South Africa —Western Africa—Central Africa 187

CHAPTER X.

The Ethiopian Race—Barabra, or Nubians—Somali—Denkali—Galla—M'Kuafi—Mussai—Other Ethiopians 210

CHAPTER XI.

The Hottentot Race 226

CHAPTER XII.

The Abyssinian Race 228

CHAPTER XIII.

The White, or Arabian Race—European Colonists—Hebrews—Armenians—Assyrians—Moguls—Afghans—Sikhs—Parsees—The Arab Countries—Europe 231

CHAPTER XIV.

Association of the Races—Their Numerical Proportions . . 281

CHAPTER XV. PAGE

Relations between the Races 286

CHAPTER XVI.

The Geographical Progress of Knowledge 290

CHAPTER XVII.

Migrations by Sea 295

CHAPTER XVIII.

Migrations by Land 302

CHAPTER XIX.

The Origin of Agriculture 307

CHAPTER XX.

Zoological Deductions 311

CHAPTER XXI.

The Introduced Animals and Plants of America . . . 317

CHAPTER XXII.

The Introduced Animals and Plants of the Islands of the Pacific . 322

CHAPTER XXIII.

The Introduced Animals and Plants of Equatorial Africa . . 345

CHAPTER XXIV.

The Introduced Animals and Plants of Southern Arabia . . 350

CHAPTER XXV.

PAGE

The Antiquities, and the Introduced Animals and Plants of Hindostan—The Budhist Caves—The Braminical Caves—Domestic Animals and Plants of Ancient India—Introduced Plants of Modern India . . . . . , 353

CHAPTER XXVI.

The Introduced Animals and Plants of Egypt, enumerated in chronological order 368

AN ANALYTICAL SYNOPSIS

OF THE

NATURAL HISTORY OF MAN.

ONE of the objects proposed by Dr. Pickering, a distinguished member of the scientific corps attached to the United States Exploring Expedition, was an inquiry into the varieties of the human family; and he thought it highly important that the geographical boundaries of those races should be correctly defined, a point of considerable interest and affording no small assistance to the whole study of *Ethnology*.

The results of his labours are given in an elaborate and very interesting quarto volume, the *seventh* of the series published under the superintendence of the Government of the United States. When the work appeared last year, it attracted no small degree of attention in the scientific circles, accompanied at the same time with a feeling of regret, that the very high price (three guineas) at which it was published would altogether close it to thousands, who otherwise had most gladly availed themselves of the very interesting and valuable information it contains.

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In presenting this valuable work to the public in its present form, it has been thought desirable to give, both to the general reader, and also to students in our schools and universities, an epitomised description of the most generally received opinions with regard to the Physical History of

Mankind. With this view these introductory pages have been written.

CONTENTS.

PART I.—Outline of the opinions maintained respecting the Races of Man.—Do the Sacred Scriptures relate to the Adamic race only, or was Eve the mother of all living?—Distinctive marks by which man is separated from every other animal.—The erect attitude peculiar to all the races of man.—Structure of the foot, heel, pelvis, hands, skull, &c.—Monkeys not adapted for the erect position.—Relative proportion of the cranium to the face.—Examination of the skeleton of the Chimpanzee and Orang-Outang.—Opinions of Professor Owen and M. G. St. Hilaire.—The brain of man contrasted with the brain of apes.—Situation of the occipital foramen.—Peculiarities of the Negro skull; conclusions of Dr. Prichard.—Professor Tiedeman's investigations with regard to the brain of the African nations.—Wormian or triquetral bones.—Camper's error in the measurement of the facial angle.—Average weight of the brain; weight of the brains of remarkable individuals; weight of the skull.—Language the miracle of human nature.—Language peculiar to man.—Man distinguished from every other animal.

PART II.—Are the Ethiopian and Caucasian distinct species?—Classification of LINNÆUS, BUFFON, BLUMENBACH, CUVIER, LAWRENCE, MORTON, PRICHARD, PICKERING, DR. CARPENTER, and others.—The *Caucasian*, *Mongolian*, *Ethiopian*, *Malayan*, and *American* varieties.—Table showing Dr. Pickering's division of the human family, from the colour of the hair and skin.—Terms, *genus*, *species*, and *variety*, explained.—Do all the races of man belong to the same species?—Objections stated.—Recent objection of the celebrated Professor Agassiz.—Proofs of the unity of our species.—The proofs derived from Scripture History.—Chronological table of the sons of Noah, and their descendants.—Meaning of the Hebrew word Cush.—Examination of Egyptian Skulls, Mummies, and Monuments.—Opinion of Mr. Birch, Mr. Gliddon, De Sola, Lindenthal, Rosenmüller, Prichard, Kitto, Plutarch, Herodotus, St. Jerome, Diodorus, Ptolemy, and others.—Analogy between the predictions of Noah and the state of those nations supposed to have arisen from his sons.—Examination of the colour of the skin, and the texture of the hair of the Negro; cause.—Dr. Pickering's account of two Albinos.—The *Melanic*, *Xanthous*, and *Leucous* varieties of man.—Peculiarities observed in the skull, pelvis, and other parts of the skeleton.—Varieties of the human skull.—Curious instance of deterioration in form of the skull in some tribes of the native Irish.—There is no physical peculiarity in any of the races of man on which valid specific distinctions can be based.—How varieties may have arisen.—Infertility of Hybrids.—Unity of language.—Remarks by Bopp, Prichard, C. C. Bunsen, and Schlegel.—Opinion of Adelung, Lawrence, Cuvier, Blumenbach, Buffon, and Prichard in favour of the unity of our species.—Résumé.

The physical peculiarities and geographical distribution of the human family furnish one of the most interesting problems in history; and it is not a little singular, that, up to a very recent period, this subject should have been so totally neglected. The oldest records seldom speak of an uninhabited country,—the extremes of heat and cold, and the intervention of seas and chains of mountains, appear to have presented but trifling obstacles to the peopling of this world.

The researches of modern navigators have proved that the human race is spread nearly over the whole earth: it has been found in the midst of the most sultry regions, in the vicinity of the pole, and upon islands apparently separated by the ocean, from all intercourse with the rest of the earth. The islands of Spitzbergen and Nova Zembla, to the north, the Sandwich Isles, and the Isles of Falkland and Kerguelen's-land, to the south, appeared the only countries of considerable extent which were destitute of human inhabitants. Under circumstances so infinitely varied, the condition of man would still appear to result from choice, rather than necessity: the ESQUIMAUX, surrounded by an atmosphere so cold that mercury becomes frozen, is perfectly content to remain in his snowy desert, and would pine, and in all probability perish, if removed to what we consider a more genial climate; on the other hand, the AFRICAN—the native of torrid regions and burning sands—considers his abode an earthly paradise. Thus, in one part of the world, the human body sustains a heat higher than that at which æther boils,* and in another, is exposed to a cold which occasions the congelation of mercury.† It would also appear, that from very remote ages, certain physical and moral peculiarities have existed amongst the people of every extended locality, of a sufficiently striking character, to distinguish them from the inhabitants of the other quarters of the globe. The skin and hair of the NEGRO are now the same as they were three thousand years ago: the ARABIANS remain to this day what they were in the days of the patriarchs; the HINDOO is now what the earliest writers described him; and Dr. Morton points out that the charac-

* Æther boils at a temperature of 98° Fahrenheit.

† Mercury becomes congealed when the thermometer falls 40° below Zero.

teristic features of the *Jews* may be recognised in the sculpture of the temples of Luxor and Karnac in Egypt, where they have been depicted for nearly thirty centuries. Thus, amid the constant change and succession of individuals, we can trace to the earliest ages the form and character first impressed by the Creator, uninterruptedly transmitted from parent to offspring: "one generation passeth away," but another cometh, like in form, structure, habits, and the limits of its existence; and man, however he may become modified by education, however exalted his condition of mental and moral refinement, is yet born the same helpless, dependent being, with the same dormant faculties of mind and body, as the first offspring of our original parents.

This wonderful identity of physical formation, continued and preserved through countless generations, and that, too, under circumstances the most dissimilar, has given rise to many ridiculous theories respecting the first origin of the human family. The more generally received opinion is the one drawn from the Book of Genesis, by which we are taught that Eve was the mother of all living, and that the eleven races, or varieties of man, described by Dr. Pickering, however they may appear to differ from each other in their physical conformation, constitute, nevertheless, *one genus* and *one species*.

It has been contended by distinguished naturalists that not only is proof wanting of the derivation of mankind from Eve, but that probability is opposed to it; others detect an absolute difference of species in the beings placed upon the earth by the Almighty. Another class speak of separate acts of creation, by which certain of the more prominent nations had their individual origin in different parts of the earth; and these mingling, afterwards, gave rise to those subordinate varieties hereafter to be described.

Another class startle by putting aside the notion of the immutability of species, and boldly conjecturing that inferior organisations, either fortuitously, or by necessity, or by the operation of latent laws of nature, have by degrees become developed into the human form, and that hence have been created those wonderful diversities which have puzzled our ideas of unity, and defied alike the speculations of the

philosopher and the naturalist. It, therefore, becomes a very interesting matter to decide whether there be evidence of such a permanent character in the physical characteristics of the different races of men as would furnish to a zoologist materials for dividing them into distinct species.

This question evidently admits of being considered in a great variety of ways. A very numerous class of readers think the matter set at rest by the decided authority of Scripture, and that any further investigation of the subject is altogether unnecessary. But, unhappily, we have not only to deal with those who altogether set at nought the authority of the Bible, but with a very large number who, while they profess the utmost reverence and veneration for the Scriptures, tell us "that the inhabitants of certain regions, Negroes and Hottentots for example, are not members of the ADAMIC family; that they are not men possessed of mental faculties of a similar kind to our own; that an impassable barrier exists between the *black man* and the *white man*, and that the lot of the former is perpetual slavery to the end of time." Thus, it will be evident that amongst professing Christians the widest extremes of opinion may be found, even whilst it is equally admitted that "God hath made of one blood all nations of men for to dwell on the face of the earth." Some include under the title of "*men*" all the individuals classed by the naturalist in the genus *homo:* others say "this genus includes many species;" that a regular gradation exists between the highest and most intellectual of the races of men, and the Esquimaux, Hottentot, and Australian; and that the Negro forms in truth the connecting link between man and the brute creation,—an opinion which those best capable of investigating the subject have shown to be altogether opposed to facts; and it is deeply to be lamented that men, altogether ignorant of the anatomical structure of the human body, should have brought forward this supposed approximation of our African brethren to the Simiæ; that men who have "laughed and wondered if a Negro's soul could feel," should thus have likened him to a brute, and endeavoured to sink him below the level of the human species, for the purpose of degrading him, thereby to palliate the cruel hardships he still suffers in lands over which the black plague-cloud of slavery even yet

is permitted to remain. The points of difference, as will be seen in the course of this investigation, between the European and the Negro, do not at all affect those important characters which separate man in general from the animal world; *the erect attitude, the two hands, the slow and gradual development of the body, the use of reason, and consequent perfectibility, are attributes common to both and peculiar to man;* the moral rights of men depend upon their moral nature, and so long as it can be demonstrated that the Negroes have the heart and consciences of human beings, it can never be right or just to treat them as the beasts of the field, even had Voltaire abundantly proved that the African races of man are but an improved kind of monkey, and himself a degenerate species of God. "I do not hesitate," says Mr. Lawrence,* "to assert that the notion of specific identity between the African and the Orang-outang is as false philosophically as the moral and political consequences to which it would lead are shocking and detestable. The human species has numerous distinctive marks by which under every circumstance of deficient or imperfect civilisation, and every variety of country and race, it is separated by a broad and clearly defined interval from all other animals, even of those species which from their general resemblance to us have been called anthropo-morphous." These distinctive features may be thus briefly pointed out:—

There would appear to be four distinct major groups of Primates†:—the *Catarrhini*, consisting of the Apes, Monkeys, and Baboons of the eastern hemisphere; the *Platyrrhini*, composed of the anthropoid animals of America; the *Strepsirrhini*, or Lemurs (including Galæopithecus, and, perhaps, Cheiromys); and the *Cheiroptera*, or bats, which last vary very essentially in their dentition according as they are frugivorous, sanguivorous, or insectivorous.

The chief characters which establish essential differences amongst the mammalia, arise from the structure of the organs of touch and manducation. On the formation of the first depends the ability and address of the animal; the second

* Lectures on the Natural History of Man, p. 87 (Bohn's edition).

† Linnæus reduced all Mammalians to three groups. His order—PRIMATES, as extended to the *Bimana*, *Quadrumana*, and *Cheiroptera* of Cuvier,—receives the approbation of the majority of Naturalists.

decides the nature of its food; and the two combined determine many things not only connected with the digestive functions, but also numerous other remarkable distinctions, extending even to their intelligence.

I. *The erect attitude is suited to the human organisation.*—The foot of man is very different to that of apes; it is large, and the leg bears vertically upon it; the heel is expanded beneath; the toes are short, and but slightly flexible; the great toe is longer and larger than the rest, and being placed on the same line with the others, cannot be opposed to them. The foot therefore, in itself exhibits proof of having been constructed for the support of the body only, and not for climbing, or seizing food; and as the hands are unfitted for walking, Man may be said to be the only animal truly *bimanous* and *biped*.

That the erect attitude and biped progression is peculiar to man, the structure of the lower limbs which support his trunk, and of the muscles which move it, sufficiently exhibits. His feet, as above shown, supply a larger base for support than those of other mammalians; and the disproportionate length of the upper and lower limbs clearly points out the office each was intended to fulfil. This is not the case with the Monkey tribes; and such a disproportion proves that they were not intended to walk erect. In examining the bones of the hands and feet in man, the bones of the latter are found to become perfect at a much earlier period than the former; because in early infancy the hand is comparatively of little use, but the feet, in ten or twelve months after birth, are called upon to sustain the weight of the body.

The legs are so connected with the trunk as to admit of wider separation than in any other animal; and, from the peculiar formation of the pelvis, and the obliquity of the neck of the thigh-bone, that pyramidal form, so favourable to a just equilibrium, is attained. In man, the whole tarsus, metatarsus, and toes rest on the ground; the *Simiæ* and the *Bear* have the end of the os calcis raised from the surface; while, on the contrary, it projects in man, and its prominent portion has a most important share in supporting the back of the foot. In fact, no piece of mechanism can be more perfect: the size of the os calcis, and its posterior protuberance, in which the muscles of the calf are inserted, prove it

an infallible characteristic of man. In the Orang-outang the thigh-bone is straight, and its two condyles of equal length: in man, the thigh is placed in the same line with the trunk; in animals, it always forms an angle with the spine, and this often an acute one. The unsteadiness of the erect attitude, and the difficulty of maintaining an equilibrium under such an arrangement, must be too clear to require additional illustration.

There are one or two peculiarities connected with the formation of the human pelvis so important, that a few words may be devoted to explaining them to the non-professional reader, the more so because, from this peculiar arrangement in the human skeleton, the connexion of the sacrum and coccyx with the ossa innominata forms a cavity resembling a basin, and by which alone man might easily be distinguished not only from the anthropo-morphous simiæ, but from all other mammalia.

The whole structure of the *thorax* proves man to be a biped; and from the erect attitude of man arises another very distinguishing prerogative, viz., the most free use of his two very perfect hands. Several genera of the mammalia possess hands; but they are much less complete, and consequently less useful, than the hand of man, which well deserves the name given to it, by the Stagyrite, of "the organ of organs." The great superiority of that most perfect instrument, the human hand, arises from the size and strength of the thumb, which can be brought into a state of apposition to the fingers, and is hence of the greatest use in enabling us to grasp spherical bodies, and to take up any object in the hand; in giving a firm hold on whatever we seize; in executing all the mechanical processes of the arts; in short, in a thousand offices which occur every moment of our lives, and which either could not be accomplished at all if the thumb were absent, or would require the assistance of both hands, instead of being done by one only. All the *Simiæ* possess hands; but the thumb, the distinguishing characteristic, is slender, short, and weak, and to be regarded, even in the most perfect, to use the language of Eustachius, as a "ridiculous imitation of the human structure," *omnino ridiculus!* Monkeys are four-handed, being neither bipeds nor quadrupeds.

That man was designed to walk erect—

> "Pronaque cum spectent animalia cætera terram,
> Os homini sublime dedit; cælumque tueri
> Jussit, et erectos ad sidera tollere vultus."

—hardly appears to require illustration; because man could not, even if he desired it, walk upon all fours: his short and nearly inflexible foot and his long thigh would bring the knee to the ground; his widely-separated shoulders, and his arms too far extended from the median line, could ill support the fore part of his body; the great indented muscle which, in quadrupeds, suspends the trunk between the blade-bones, is smaller in man than in any one amongst them; the head is heavier, on account of the magnitude of the brain, and yet the means of supporting it are weaker; for he has neither a cervical ligament, nor such a modification of the vertebræ as to prevent their flexure forward; the head could, therefore, only be maintained in the same line with the spine; and from the position of his eyes, which must then be directed to the ground, he could not see before him: these organs are quite perfect if he walk erect, and admirably adapted for that position.

II. *Monkeys are not adapted for the erect position.*—From the perfect mechanism of the human foot, and the concavity of the sole, space and protection are afforded to its muscles, nerves, and blood-vessels, and an additional safeguard is supplied by a layer of granular fat and a thick integument. If we examine the foot of the most perfect monkey, it is found to resemble a hand: it rests upon the outer edge, the heel does not approach the earth, and the tarsus is contracted. An examination of the various muscles is also conclusive on this point; and Aristotle has truly said, that "the calves of the legs can only be ascribed to the human race." If the skeleton of an ape be compared with that of a man, the latter will be seen well fitted to move onward in the manner peculiar to our species; whilst the former evinces that the erect position is not natural to them, but artificial, and can never be anything but unsteady, painful, and irksome. Nor will it be necessary to state, that when monkeys are seen walking in an upright position, the circumstance is to be traced to discipline and instruction, and the first glance

convinces the mind that such a gait is unnatural: the narrowness of the pelvis, the angle of the thigh in connexion with the trunk, the want of muscles to form calves, and the structure of the foot, prove such a position to be unsuitable. No proof has ever been adduced of an ape, or any animal, save man, supporting his body upon one foot only. Monkeys cannot do this: "They go," says Daubenton, "almost erect on the feet, but the legs and thighs are bent, and sometimes the fore-paw touches the ground to support the reeling body;" they are unsteady, if any attempt is made to stoop in the upright position; the heel only rests upon the ground, the sole of the foot being raised; and they can remain but a short time in this position, which is altogether unnatural. Such are some of the leading features of difference between man and those animals which most nearly resemble him, so far as the trunk and extremities are concerned: those which belong to the skull, and the brain contained within it, will not be found less remarkable.

One of the most striking differences between man and all other animals consists in the relative proportions of the cranium and face. The organs which occupy the greater portion of the face are those of vision, smelling, and tasting, and the instruments for mastication and deglutition. In proportion as these are more developed, the size of the face, compared with that of the skull, is increased. No quadruped approaches man in the magnitude and convolutions of the hemispheres of the brain; that is to say, of that part of this organ which is the principal instrument of the intellectual operations: the posterior portion of the same organ extends backwards, so as to form a second covering to the cerebellum; even the form of the cranium announces this great size of the brain, as the smallness of the face shows how slightly that portion of the nervous system which influences the external senses predominates in him.* "The human and brute face," says Mr. Lawrence,† "are not more strongly contrasted in size, and in their relation to the cranium, than in general configuration, in the construction of individual parts, and the motions and uses to which they are subservient." In the latter, the face is an instrument adapted to procure

* Cuvier's Animal Kingdom. Introduction, p. 47.
† Lectures on the Natural History of Man, p. 118.

and prepare food, and often a weapon of offence and defence; the former is an organ of expression,—an outward index of what is passing in the busy mind within. Elongated and narrow jaws, sharp cutting teeth, or strong, pointed, and formidable fangs, make up the face of the animal; the chin, lips, cheeks, eye-brows, and forehead, are either removed, or reduced to a size and form simply necessary for animal purposes; the nose is confounded with the upper jaw and lip; or, if more developed, is still applied to offices connected with the procuring of food; we have a muzzle, or snout, rather than a face. In man, even in the *Australian* (Plate V.), the *Negrillo* (Plate VIII.), or the poor *Bosjesman* lad (Plate XI.), the animal organs, the jaws and teeth, are reduced in size, and covered from view; hence, in comparison with other animals, the mouth is extremely small, and neither used, or capable of use, in directly taking or seizing the aliment. The chin, lips, cheeks, bridge of the nose, eye-lids and eye-brows, as Mr. Lawrence has so clearly pointed out, receive a play of action, which is seen in no other animal. The constant motions of this finely formed countenance correspond with the inward workings and emotions, and are a most important medium of influence and communication with our fellow-creatures—inviting and attracting them by its expansion, in love, friendship, affection, and benevolent feelings; warning and repelling, by its fearful contraction, in indignation, scorn, malice, and hatred. "When to the human face we add the ample and capacious forehead, the organisation of the intellectual and moral being is perfect; the contrast with all others even of the man-like class pointed and complete; how admirably do the positions of the face in the erect attitude of man and the prone posture of brutes correspond to these striking differences in construction!"*

Camper assigned the want of the intermaxillary bone as one of the grand characteristics which distinguish the human head from that of every other animal. Since this bone is found where there are no incisor teeth, as in the horned ruminants, in the elephant and the two-horned rhinoceros of Africa; and also where there are no teeth, as in some of the

* Lectures on the Natural History of Man, p. 119.

whale kind and in the ant-eater; Blumenbach has described it as the "*os intermaxillare:*" * of the existence of this bone in the fœtus we shall hereafter speak.

The *Chimpanzee* and the *Orang* are the only members of the monkey family who make any considerable approach to the human form. These anthropoid apes have been classed by Mr. R. Owen and M. Geoffroy St. Hilaire† in two sub-genera, termed Troglodytes and Pithecus. We are under no small obligation to Mr. Owen for the important light his investigations have thrown on the anatomy of these creatures, in comparison with man and with each other. It now appears that Tyson, Camper, Vicq D'Azyr,‡ and the earlier anatomists who have written on the structure of the Simiæ, have formed all their conclusions upon an examination of young orangs; and hence their remarks on the facial angle, teeth, and relative proportions of the cranium and the face, are quite erroneous when applied to the adult animal, and have led, as this distinguished naturalist has very clearly proved, to an opinion that the transition of mankind to the Simiæ is much more gradual than it really is.§ Thus, in the human fœtus what appears to be a separate maxillary bone may be traced, in common with the monkey and other inferior animals. The ground for this opinion is the existence in the fœtus and child of a small transverse fissure in the palate, behind the alveoli of the incisors, but presenting this very obvious and important difference, that in the human subject no vestige of a suture can ever be traced between the alveoli, much less on the upper and anterior surface of the jaw.

The brain of the ape attains its fullest size at a very early period, not being destined, like the brain of man, for further development; and, therefore, when the jaws become enlarged and lengthened, with the increase of the maxillary apparatus, and the zygomatic arch is extended, without any corresponding downward growth, and development of the brain, or extension of the cavity in which it is placed, a material change

* De Generis Humani Varietate Nativâ, pp. 35-6.

† Annales du Muséum, tom. xix.

‡ Mémoires de l'Acad. des Sciences de Paris, 1780.

§ On the Osteology of the Chimpanzee and Orang. By R. Owen, Esq., F.R.S. Zoolog. Trans. vol. i. p. 343.

takes place in the proportions of the cranium to the jaws. When the cranial portion of the head preponderates over the facial and maxillary part, it approximates proportionally to the human form; the facial angle is wide, the occipital foramen more in the centre, and the zygomatic arches, when the basis of the skull is examined, appear confined to the anterior half of the cranium.

It has been proved by Mr. Owen, and by Dr. Prichard,* that when the skulls of adult apes are compared with those of man, the most strongly marked and important features distinguish the quadrumanous type from that of the human skull. The cranium, *a small rounded case*, is posterior to, and not above, the face; the antero-posterior diameter of the basis of the skull is much longer than in man; but the situation of the zygomatic arch, in the plane of the base of the skull, presents the difference in the most striking manner. *In all the races of men, and even in human idiots, the entire zygoma is included in the anterior half of the basis of the skull: in the head of the adult chimpanzee and also in the orang, the zygoma is placed in the middle region of the skull, and in the basis occupies just one-third part of the entire length of its diameter.*

The situation of the great occipital foramen furnishes yet another most distinguishing feature. In the human head it is very near the middle of the basis of the skull, or, rather, speaking anatomically, it is situated immediately behind the middle transverse diameter; while in the full-grown chimpanzee it occupies the middle of the posterior third part of the base of the skull.

The principal peculiarities in the general form of the more strongly-marked Negro skull may be referred to the two characters of lateral compression, or narrowing of the entire cranium, and the greater projection forwards of the jaws. The head is proportionally narrower, and the upper jaw is more protruded than in the ordinary form of other races. Some anatomists have fancied they have discovered certain points of relation between the skulls of Negroes and those of monkeys. Now, as the Negro skull is the narrowest and most elongated of human skulls, and as the crania of apes

* Physical History of Mankind, vol. i. Third Edition, pp. 286-8.

and all other animals of the monkey tribe are much longer and narrower than those of men, it could hardly be supposed but that some points of resemblance should exist between the ape and the African. These analogies are of much less weight than they are supposed to be; the differences between the heads of Simiæ and those of men have been already described.

Dr. Prichard says, he has "carefully examined the situation of the foramen magnum in many Negro skulls. In all of them the position may be accurately described as being exactly behind the transverse line bisecting the antero-posterior diameter of the basis cranii." This is precisely the place which Professor Owen has pointed out as the general position of the occipital foramen in the human skull. In those Negro skulls which have the alveolar process very protuberant, the anterior half of the line above described is lengthened in a slight degree by this circumstance. If allowance be made for it, no difference is perceptible. "The difference," says Dr. Prichard, "is in all instances extremely slight, and it is equally perceptible in heads belonging to other races of men if we examine crania which have prominent upper jaws. If a line is let fall from the summit of the head at right angles with the plane of the basis, the occipital foramen will be found situated immediately behind it, and this is precisely the same in Negro and in European heads." The projection of the muzzle, or, more correctly to speak, of the alveolar process of the upper jaw-bone, gives to the Negro skull its peculiar deformity, and to the face its ugly, monkey-looking aspect; and to the same circumstance, the difference, noticed by Camper, in the facial angle, between the head of the European and the head of the Negro, may be attributed.

In the Negro, the external organ of hearing is also wide and spacious, and, as it appears, proportionately greater than in Europeans. The mastoid processes, represented in the chimpanzee by a protuberant ridge behind the auditory foramen, and which Soemmering remarks can scarcely be discovered in apes, are as fully formed in the Negro as in our own race. In the Negro, the *styloid* process of the temporal bone is fully and strongly marked; in the chimpanzee, orang-outang, and all apes, it is entirely wanting. Wormian or

triquetral bones have been thought to be rare in the skulls of Africans, and Blumenbach even doubted their existence in the crania of any of the African races.* There is an Australian skull in the museum of Guy's Hospital, in which there are some of considerable size, and Dr. Prichard describes † a Negro's skull in his possession, having Wormian bones. He also justly remarks that the features of the Negro races are by no means widely diffused in so strongly-marked a degree as some descriptions might lead us to suspect. The Negroes of Mozambique have a considerable elevation of forehead, and an examination of several crania in the museum of Guy's Hospital, of the Negroes of this locality, will show that they display a less protuberance of jaw.

The facial angle contains, according to Professor Camper's tables, 80° in the heads of Europeans; in some skulls it is much less, and in Negroes only 70°. In the Orang it has been estimated at 64°, 63°, and 60°. This error has been already pointed out; an angle of 60° is the measurement of the skulls of young apes. Professor Owen has shown the facial angle of the adult Troglodyte to be only 35°, and in the Orang, or Satyr, it is only 30°. The Peruvian cranium, described by Tiedeman, possesses so very remarkable a configuration, that some might be inclined to adopt his opinion that it belonged to an original and primitive race, were it not known that it had been produced by artificial means. We have examined several of such skulls, brought from Titicaca, in Peru, and in another place‡ have given a sketch of a skull brought from this locality, and which is now in the museum of the Royal College of Surgeons. Dr. Morton§ has given several drawings of skulls, so altered by this pressure as almost to have lost the outlines of humanity. In one skull brought from Peru, the intervention of art is very manifest in the depression of a forehead naturally low. The lateral swell is not very remarkable, and the parietal protuberances are flattened; and these two peculiarities are the well-known types of the formation of the crania of these people. That the Caribs of St. Vincent flattened the heads

* Page 88. † Pp. 296-7.

‡ On the Animal Kingdom and Unity of our Species, by J. C. Hall, M.D. plate iv. p. 87. London, 1840.

§ Crania Americana, by S. Morton, M.D. Philadelphia, 1839.

of their offspring is well known; and the inspection of Blumenbach's engraving of a Caribbean skull will convince any one of the great amount of deformity which may be produced. Among the Columbian tribes, the child immediately after birth is put into a cradle of a peculiar construction, and pressure is applied to the forehead and occiput. After the head has been compressed for several months it exhibits the most hideous appearance: the antero-posterior diameter is the smallest, while the breadth from side to side is enormous, thus reversing the natural measurements of the cranium. In comparing the measurements of the Negro's skull with that of an European, it must be remembered that many of the skulls in our museums do not present the true characters of this race: they have been taken from unfortunate creatures kidnapped on the coast, or their enslaved offspring, and that conclusions are to be drawn from the formation of the head in the whole race, and not from the crania of particular museums.

With regard to the brain Dr. Cadwell remarks, "In both the Negro and Caucasian races we have the brain, which, except in point of size, is precisely the same in the African as the European." The following are the conclusions of Dr. Tiedeman:*—1st, In size, the brain of a Negro is as large as an European. 2nd, In regard to the capacity of the cavity, the skull of the Negro in general is not smaller than that of the European and other human races; the opposite opinion is ill-founded, and altogether refuted by my researches. 3rd, In the form and structure of the well-possessed spinal chord the Negro accords in every way with the European, and shows no difference except that arising from the different size of the body. 4th, The cerebellum of the Negro, in regard to its outward form, fissures, and lobes, is exactly similar to that of the European. 5th, The cerebrum has, for the most part, the same form as that of the European. 6th, The brain, in internal structure, is composed of the same substance. 7th, The brain of the Negro is not smaller, compared as to size, nor are the nerves thicker. 8th, The analogy of the brain of the Negro to the orang-outang is not greater than that of other races, "except it be

* On the Brain of the Negro; Philosophical Trans. 1838, p. 498.

in the greater symmetry of the *gyri and sulci; which I very much doubt.*"

As these features of the brain indicate the degree of intellect and faculties of the mind, we must conclude that no innate difference in the intellectual faculties can be admitted to exist between the Negro and European races. The opposite conclusion is founded on the very facts, which have been sufficient to secure the degradation of this race. "The more interior and natural the Negroes are found in Africa, they are superior in character, in arts, in habits, and in manners, and possess towns, and literature to some extent. Whatever, therefore," says Robinson, "may be their tints, their souls are still the same."

It is the opinion of Dr. Prichard, also, that there is nothing whatever in the organisation of the brain of the Negro which affords a presumption of inferior endowment, of intellectual or moral faculties. This writer has also given the weight of several skulls of nearly the same size, from which it would appear that there is little constant difference.* The average weight of the brain of an European is about 44 ounces troy weight. Dupuytren's brain weighed 64 ounces: Cuvier's, 63 ounces: Abercrombie's, 63 ounces: the brain of the celebrated Dr. Chalmers only reached 53 ounces; he had a large head.

Some other peculiarities might be noticed, such as the articulation of the head with the spine; the teeth are all of one length, and arranged in an uniform unbroken series. In the Simiæ, whose masticatory apparatus most nearly resembles man, the cuspidati are longer, often very much longer, than the other teeth, and there are intervals in the series of each jaw to receive the cuspidati of the other.

* Table exhibiting the weight of several skulls, nearly of the same size.

	lbs.	oz.
Skull of a Greek . . .	1	11½
„ „ Mulatto . .	2	10
„ „ Negro, 1 . .	2	0
„ „ Negro, 2 . .	1	12½
„ „ Negro, 3 . .	1	5¼
„ „ Negro, 4, (from Congo)	1	11¾
Skull of a New Zealander	1	10¾
„ „ Chinese . . .	1	7½
„ „ Gipsy, without lower jaw	1	13½
„ of a Gipsy, with lower jaw	2	0

From the researches of Professor Tiedeman it appears that the average weight of the European brain is from 3lbs. 3oz., troy weight, to 4lbs.

The lower jaw of man is distinguished by the prominence of the chin, a necessary consequence of the inferior incisors being perpendicular; by its shortness, and by the oblong convexity and obliquity of the condyles. This remarkable feature in the face of our species is found in no animal. In the orang-outang it appears as though the part were cut away.

There yet remains the grand distinction between all the races of man and other animals—

LANGUAGE! the miracle of human nature!! The lower animals can indeed communicate with each other by sounds and signs, but they cannot speak. The language of man is the product of art; animals derive their sounds from nature. Every human language is derived from imitation, and is intelligible only to those who either inhabit the country where it is vernacular, or have been taught it by a master or by books. Homer and Hesiod distinguished man by the title of μεροψ, or *voice-dividing;* and Aristotle says, "*Speech* is made to indicate what is expedient and what is inexpedient; and, in consequence of this, what is just and what is unjust. It is therefore given to men, because it is peculiar to them that of good and evil, of just and unjust, they only, with respect to other animals, possess a sense or feeling." The existence of language, therefore, says an American writer,* is in itself a proof of the specific character of humanity in all those among whom it is found. The distinguishing characteristics of man, and the peculiar eminence of his nature and his destiny, as these are universally felt and acknowledged by mankind, are usually defined to consist in reason aud the faculty of speech. Frederick Von Schlegel has, however, suggested that the peculiar pre-eminence of man consists in this,—that to him alone, among all other of earth's creatures, the "WORD" has been imparted and communicated. "The *word,*" he continues, "actually delivered, and really communicated, is not a mere dead faculty, but an historical reality and occurrence. In the idea of the word considered as the basis of man's dignity and peculiar destination, *the word is not a mere faculty of speech,* but the fertile root, whence this stately trunk of all language has sprung."†

* Unity of the Human Races, by the Rev. T. Smyth, D.D.

† The Philosophy of History (Bohn's edition).

Man may, therefore, be said to differ from every other animal, whatever the family in which he is classed and the colour of his skin:—

a. *In his feeble and long infancy, late puberty, and slow growth.*
b. *In possessing the power of* SPEECH; *holding communion with his fellow-men by words.*
c. *Smoothness of skin; no natural weapons of offence or defence.*
d. *In the general conformation of the body; the structure of the pelvis, thighs, and legs; the incurvation of the sacrum and os coccygis.*
e. *The erect posture; the adaptation of certain muscles to that state; the peculiar structure of the feet; the position of the eyes; the possession of two hands, beautifully and perfectly constructed; and in the great strength of the thumb in comparison with the monkey race.*
f. *Large proportion of the cerebral cavity to the face, and the size and weight of the brain in relation to the nerves which spring from it.*
g. *In having teeth all of the same length; the inferior incisors being approximated.*
h. *No intermaxillary bone; shortness of the lower jaw.*
i. *In the shape of the head; the situation of the foramen magnum, and the articulation of the skull with the spinal column, by the middle of its basis, and the absence of the ligamentum nuchæ.*
j. *Great development of the cerebral hemispheres, and the greater number of mental faculties, intellectual, and moral.*

PART II.

Having described some of the leading peculiarities of structure by which man may be distinguished from the rest of the animal creation, it remains to examine the varieties of the human race, to trace the leading characteristics of its several families, and to consider the grounds from which, on the one hand, it has been contended that the Ethiopian and Caucasian are distinct species, and, on the other, the arguments and facts, both scriptural and otherwise, on which the proof of the unity of our species is said to rest.

The ingenuity of the most learned naturalists, of the past and present century, has been engaged in grouping mankind into races, and at the same time in displaying the diversity of opinion to which human researches so frequently lead.

LINNÆUS referred all the human family to five races—the *American*, the *European*, the *Asiatic*, and the *African*, and men of *preternatural formation*. Six great divisions were proposed by the COUNT DE BUFFON:*—1st, the *Hyperborean* or Laplander, including the inhabitants of the Polar regions; 2nd, the *Tartar*, which embraces the eastern and central nations of Asia; 3rd, the *Southern Asiatic*, which comprehends the South-Sea Islanders; 4th, the *European;* 5th, the *Ethiopian;* 6th, the *American*. He afterwards somewhat altered this arrangement, reducing the races to *five*, by classing the *Tartars* with the *Laplanders*, and regarding the one as simply a degenerate branch of the other.

This arrangement of Buffon was adopted by Professor BLUMENBACH, of Gottingen, who changed the names of some of the divisions, and fixed with greater accuracy their geographical distribution. The *Mongolian* variety of Blumenbach includes the *Tartar* and *Laplander* of Buffon; the *European* and the *Caucasian* are the same in both systems; and the *Southern Asiatic* variety of the one represents the *Malay* of the other.

The division of the justly celebrated CUVIER is still more simple and elementary; for he proposes three races only, the *Caucasian*, *Mongolian*, and *Ethiopian;* but this naturalist was

* Sonnini's Buffon, xx. p. 120. See also Wood's Translation.

undecided whether to refer to either of these, the Malays, the Papuans, the Australians, and the South-Sea Islanders.*

Although he does not consider the classification of Blumenbach altogether free from objection, Mr. LAWRENCE regards it as the best that can be adopted; perhaps it would be more correct to regard the five varieties under which he has arranged the several tribes of our species as principal divisions, each of them including men differing more or less from each other. As our means for comparing the races of men become more extended, our classification will, as a matter of course, improve; and until this requisite knowledge, to which Dr. Pickering, in the work to which these observations are prefatory, has contributed in no inconsiderable degree, we must rest content with an approximation to accuracy. "I have seen," says he, "in all ELEVEN RACES OF MEN, *and although I am hardly prepared to fix a limit to their number, I confess, after having visited so many different parts of the globe, I am at a loss where to look for others;*" † and, he continues, in his zoological deductions,‡ "*there is, I conceive, no middle ground between the admission of eleven distinct species in the human family and the reduction to one. This latter opinion, from analogy with the rest of the organic world, implies a central point of origin. Further zoological considerations, though they do not absolutely require it, seem to favour a centre on the African continent, and confirmatory circumstances of a different character are not wanting.*"

Linnæus, Blumenbach, Cuvier, Lawrence, Camper, Dr. Prichard, Dr. Morton, Humboldt, Zimmerman, Pickering,§ and many other distinguished naturalists consider the unity of the species as sufficiently proved; and the French Academy of Science, in one of its reports, speaking of Blumenbach, remarks, "that a profound gulph, without connexion or passage, separates the human species from every other. There is no other species that is akin to the human, nor any genus whatever. The human race stands alone. Guided by the facial line, Camper drew a resemblance between the Orang-outang and Negro. He regarded the form of the skull, which makes an apparent resemblance, but overlooked

* Règne Anim., vol. i., p. 84.
† Enumeration of Species, p. 10.
‡ P. 306.
§ On the Unity of the Human Races.

the capacity of the skull, which makes a real difference." On the other side of the question we have, amongst others, Mr. Burke and Dr. Nott; also Virey, who has divided mankind into two species, Dumolin into eleven; and Borey de St. Vincent* describes no less than fifteen species; while Professor Broc† adds to this list numerous sub-genera;—conclusive proof of the facility with which phantastic visionaries can overstep the barriers of reason and of nature.

DIVISION I.	CLASS I.	ORDER I.
Vertebrata.	Mammalia.	Bimana.

The order *Bimana* contains one genus and one species.

GENUS.	SPECIES.	VARIETIES.
Homo	Homo	1. Caucasian. 2. Mongolian. 3. Ethiopian. 4. Malayan. 5. American.

The leading features of each of these varieties may be easily defined.

I. THE CAUCASIAN RACE includes the following families:

a. *The Caucasian Family.*
b. *The Celtic Family.*
c. *The Germanic Family.*
d. *The Arabian Family.*
e. *The Libyan Family.*
f. *The Nilotic Family.*
g. *The Indostanic Family.*

The leading characteristics of this race are a naturally fair and beautiful *skin*, susceptible of many tints; *skull*, large and oval, having the anterior portion finely formed, full, and elevated; *hair*, of various colours, fine, long, curling; *face*, in proportion to the head small, of an oval form; *features*, well-proportioned: the nasal bones are arched, the chin full, and the teeth vertical. The race is distinguished for the facility with which the highest intellectual endowments are acquired. This family derives its name from the mountainous regions of Caucasus, between the Black Sea and the Caspian; and to this spot both history and tradition

* Tome i. p. 95.
† Broc, Essai sur les Races Humaines, 1836.

refer the primeval family of man. The Caucasians, *Proper*, are confined to the valleys and mountains of Caucasus. They are extremely numerous, and embrace many primitive tribes, which differ in language, yet possess in common certain prominent physical features.

II. The Mongolian Race.

h. *The Chinese Family.*
i. *The Indo-Chinese Family.*
j. *The Polar Family.*
k. *The Mongol-Tartar Family.*
l. *The Turkish Family.*

A sallow, olive-coloured skin, drawn tightly over the cheek-bones, like parchment, "always sufficiently light to show a flush, and, in the far north, decidedly florid;" * *hair*, remarkably long and straight, and of a dark colour; either beardless, or, when a beard makes its appearance, remarkably thin; *nose*, broad and short; *eyes*, black, and placed obliquely; *eyebrows*, arched and linear; *skull*, oblong-oval, a little flattened at the sides, and a low, receding forehead, are the physical traits of this great family. The Arctic regions, Dr. Pickering observes, seem exclusively possessed by the Mongolian race, which, besides, is diffused through a greater variety of climates than any other, and over a far larger area, including half of Asia, with a trifling exception, all aboriginal America, or more than two-fifths of the land-surface of the globe.

III. The Ethiopian Race.

m. *The Negro Family.*
n. *The Caffrarian Family.*
o. *The Hottentot Family.*
p. *The Australian Family.*
q. *The Alforian Family.*
r. *The Oceanic—Negro Family.*

The features of the Negro are more or less familiar. *Eyes*, large; *lips*, thick; *complexion* black; *hair*, black and woolly; *nose*, broad and flat; *cheek-bones*, prominent; *skull*, long and narrow; *forehead*, low; *jaws*, projecting; *chin*, small. The Negro race appear to inhabit about one-half of Africa; and, excluding the table-land of the northern and southern extremes of Abyssinia, it occupies all the more fertile and

* Physical History of Man, p. 15.

temperate parts of the continent. The student is warmly recommended to study what Dr. Pickering has said with regard to the distribution and peculiarities of this remarkable race, to which we shall again refer when considering the grounds of objection to the unity of our species,—a race which, he truly observes, is "destined one day to fill an important place in general history." *

IV. The Malay Race.

s. *The Malay Family.*

t. *The Polynesian Family.*

The *complexion* of the Malay Race is a reddish brown; *hair*, black, coarse, and lank; the *eyelids* are drawn obliquely upwards at the outer angles; the *skull* is square, and the *forehead* low; there is also a tendency to a peculiar prolongation and projection of the upper jaw-bone. The peculiar features of this people are admirably pourtrayed in Plates III. and IV. In the Malay Race there is a singular diversity of stature: the members of the Polynesian family (*Taheitans, Samoans,* and *Tonga Islanders*) are of a higher stature than the rest of mankind; but the Indian tribes, and the inhabitants of the Indo-Chinese countries, fall decidedly below the general average. Both divisions of the race derive the greater part of their food from the vegetable kingdom,—the East Indian living upon rice; the Polynesian, to whom every kind of grain is unknown, feeds upon fruits and farinaceous roots of similar consistence. The large stature of the Polynesian chiefs is a singular circumstance, the more so when it is remembered that they are hereditary. Dr. Pickering attributes it, in part, at least, to the larger quantity of food they receive when young; and, if this be so, it shows the remarkable influence of food, and other external circumstances, upon the human figure.

V. The American Race.

u. *The American Family.*

v. *The Toltican Family.*

The principal features in this family are, a brown *complexion;* long, lank *hair;* scanty *beard;* black, sunken *eyes;* tumid and compressed *lips; mouth,* large; *nose,* large and aquiline; *skull,* small, wide from side to side, prominent at the vertex, occiput flat. In their mental character the

* See chapter ix. p. 187—209 of the present edition.

Americans are described, by Dr. Morton, as "averse to cultivation, slow in acquiring knowledge, restless, revengeful, fond of war, and wholly destitute of maritime adventure."*

The following table has been constructed so as to give to the student at a glance the classification adopted by Dr. Pickering in the following pages.

Colour.	Families.	Distinguishing Physical Characteristics.
a. WHITE	1. *Arabian*	Nose prominent; lips thin; beard abundant; hair straight,—flowing.
	2. *Abyssinian*	Complexion hardly florid; nose prominent; hair crisped.
b. BROWN	3. *Mongolian*	Beardless; hair straight and long.
	4. *Hottentot*	Negro features; hair woolly; stature small.
	5. *Malay*	Features not prominent in profile; complexion darker; hair straight, —flowing.
c. BLACKISH BROWN	6. *Papuan*	Features same as No. 5; beard abundant; hair crisped or frizzled.
	7. *Negrillo*	Beardless; features negro; hair woolly; stature small.
	8. *Indian*	Features Arabian; hair straight or flowing.
	9. *Ethiopian*	Features between the Indian and Negro; hair crisped.
d. BLACK	10. *Australian*	Negro features; hair straight or flowing.
	11. *Negro*	Hair woolly; nose flat; lips thick.

The terms *genus*, *species*, *variety*, and *race*, require a few words by way of illustration. The word *species*, from *specio*, to behold, signifies, literally, the form or appearance, and hence it denotes a class or division causing the same, or similar sensations, to the sight. This term may be used in a *popular*, a *logical*, and a *zoological* sense. In the popular sense, species means any class, either of subjects or objects, which are included under a more general class. In its logical sense, by the word *species* we understand any class

* Crania Americana, p. 6.

of whatever nature, which is distinguished from all other classes by an indeterminate multitude of properties not derivable from another class, and which is not divisible into other kinds. In a zoological sense, the words *genus*, *species*, and *variety*, may be thus defined:—

A race of animals or a tribe of plants marked by any peculiarities of structure, which from one generation to another have always been constant and undeviating, form a species; and two races are described as specifically distinct, if they are distinguished from each other by some peculiarities which the one cannot be supposed to have acquired, or the other to have been deprived of by any operation of physical causes with which we are acquainted; so that under the term *species* are comprised all those animals which are supposed to have arisen in the first instance from a single pair. This, according to Dr. Prichard, is the sense in which, speaking zoologically, the word *species* has been comprehended by all writers on the different departments of natural history. Cuvier says, "We are under the necessity of admitting the existence of certain forms which have perpetuated themselves from the beginning of the world, without exceeding the limits first prescribed; all the individuals belonging to one of these forms constitute what is termed a species." De Candolle* adds, "We write under the designation of species all those individuals who mutually bear to each other so close a resemblance as to allow of our supposing that they may have proceeded originally from a single pair."

The term *genus* (γενος) has a much more extensive application. There are several species which so exactly resemble each other as immediately to suggest the idea of some near relation between them. The horse, the ass, the zebra, and others of the horse kind, are examples of this remark; the different species of elephant is another; and a third is furnished by the several kinds of oxen, buffaloes, bisons, and so on, all belonging to the ox genus, and bearing a striking resemblance to each other. As we are aware of no physical causes which could have operated so as to produce these differences of structure which exist between the several

* Physiologie Végétale, tome ii. p. 689.

species of one genus, it is concluded that they originally sprung from different individuals. A genus consequently is a collection of several species on a principle of resemblance, and it may comprise a greater or less number of species, according to the peculiar views of the naturalist.

In natural history, *varieties* are such diversities in individuals and their progeny as are observed to take place within the limits of species; such varieties in animals and plants may be produced by the agency of external causes—they are congenital; that deviation from the peculiarities of the parent stock which is occasioned by the mixture of breed has been looked upon as a kind of variety; but throughout the animal kingdom varieties very often arise as the result of mere agencies, often very little understood, on the breed, independently of such mixture; varieties are hereditary, or transmitted to offspring with greater or less degrees of constancy. Varieties are distinguished from species by the circumstance that they are not original or primordial, but have arisen within the limits of a particular stock or race. Permanent varieties are such as having once taken place, continue to be propagated. The properties of species are two—1st, original difference of character; 2ndly, perpetuity of transmission.*

Races are properly successions of individuals propagated from any given stock.

DO ALL THE RACES OF MAN BELONG TO THE SAME SPECIES?

a. *Objections.* 1st, It is said that the record found in the book of Genesis has reference only to the first parents of the *Sacred, Jewish,* or *Caucasian* race; and that this early history of man has in itself evidence of being composed of different productions, and refers to the creation and history of different races. It is also maintained that the Bible itself supplies evidence of different races of men living on the earth contemporaneous with the family of Adam, in the statement of Moses regarding "the sons of God," and "the daughters of men;" and that to prevent their intermixture and the corruption of these different races, the present variations in form and colour were introduced.

* Physical History of Man, p. 109.

2nd, Differences in colour, hair, and the structure of the extremities, trunk, and skull, from which it is contended that different kinds of men were originally created. It is therefore asserted, *first*, that all the existing races of men have arisen from a single pair; *second*, that the existing races are the descendants of several distinct pairs, which originally were created with those peculiarities of colour and physical formation, which now are seen to exist in men that appear most widely separated from each other. Those who object to the unity of the species say that the leading characters which separate the races of men are *permanent*, and must have been transmitted by their original progenitors.

"If," says Professor Agassiz, "by the unity of the races of man be meant nothing more than that all mankind were endowed with one common nature, intellectual and physical, derived from the Creator of all men,—were under the same moral government of the universe, and sustained similar relations to the Deity, I side with those who maintain the unity of the races. It is quite a different question whether the different races of men were descended from different stocks, and I regard this position as fully proved by Divine revelation. The Jewish history was the history, not of divers races, but of a single race of mankind; but the existence of other races is often incidentally alluded to, and distinctly implied, if not absolutely asserted, in the sacred volume." He *now* agrees with Voltaire that there were other races of men in co-existence with Adam and his son Cain, dwelling in the land of Nod, and among whom Cain married and built a city. In a paper "On the Geographical Distribution of Animals," Professor Agassiz endeavours also to show that "there is no common centre, or several centres of origin, among all other animals beside man, but that they were all created in the localities they naturally occupy, and in which they breed either in pairs or in multitudes; and, therefore, that there was no common central origin for man, but an indefinite number of separate creations from which the races of man have sprung."

b. *Proofs of the Unity of our Species.*

For that period of the world's history from the Creation

to the Deluge, we are solely indebted to the Mosaic records, the truth and credibility of which are proved by the most striking testimonies of natural and civil history. The various, though distorted, traditions which have prevailed in almost every nation respecting the first creation of the world, bear so close a resemblance to the facts mentioned by the great Hebrew annalist, that we can account for them only on the supposition of their having originated from one common source. The idea of a chaos, and of the creation of all things by the agency of a supreme mind; the arbitrary division of time into weeks—the formation of man in the moral image of God—his temptation, fall, and consequent depravation of human nature—the longevity of the antediluvian patriarchs, —all these circumstances, and others of a kindred nature, are either expressly alluded to by ancient historians or shadowed forth in the legendary fragments which still remain; and, further, the paucity of mankind, and the vast tracts of uninhabited lands in the first ages, together with the late invention of the arts and sciences, agree in confirming the accuracy of the Mosaic narrative.

Adam was born about 4000 years before Christ; he lived 930 years.

Cain. *Abel.* *Seth*, lived 912 years.

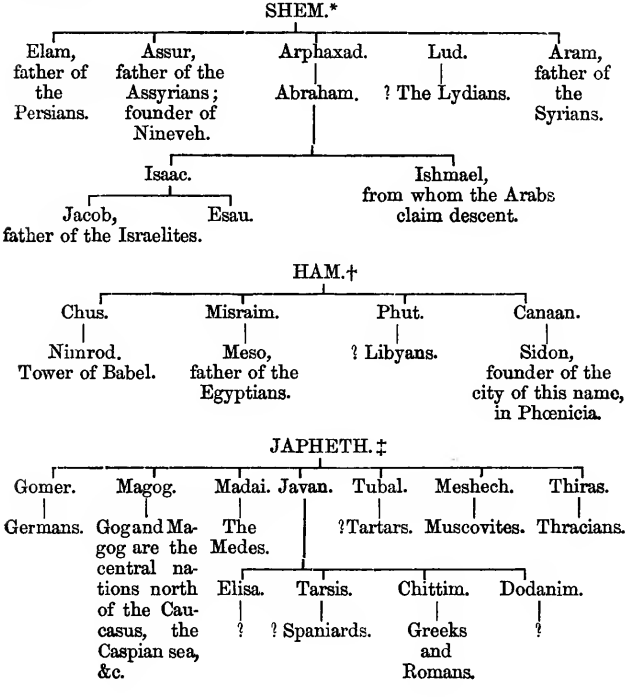
Methuselah, lived 969 years.

* *Noah*, lived 950 years.

Cashmere has been by some regarded as the ancient Paradise, because the Himmalah mountain, being considered as the highest in the world, first arose out of the waters. The four rivers mentioned in the sacred writings as flowing around it, would in this case be, the Ganges, the Indus, the Burhamputer, and the Jihon. With regard to this river, "the same which compasseth the whole land of Ethiopia," the land of Africa is not meant, but another country in Asia adjoining the easterly mouth of the Euphrates, called by the Hebrews *Cush*, by the Greeks and Latins *Susiana*, and now, by the Persians, *Chusistan*, that is, the province of Chus.

* The flood, about 2350 years before Christ, when Noah was in the 600th year of his life.

Sons of Noah from whom the present races of man descended.



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* From the Mahommedan accounts, it would appear that Shem is the father of the Eastern nations—the Hebrews, Persians, Arabians, and also the Greeks and Romans.

† Ham, from the Mahommedan annals, was the common founder of the Southern nations—the Moors, Africans, and Indians.

‡ Mirkhond and Khondemir, the Oriental historians, differ from the genealogy of the Bible. They give to Japheth eight sons:—1. Turki, father of the Turks, Tartars, Monguls. 2. Chin, father of the Chinese. 3. Seclab, father of the Slavi. 4. Mameluk, father of the Mamelukes. 5. Gomari, father of the Cimmerians, Germans. 6. Kozar (?). 7. Rus, father of the Russians. 8. Bazag (?).

To the first objection, that the Scriptures relate only to the Jewish, Sacred, or Caucasian race, it may be answered, that Adam called his wife "*the mother of all living*"—of all human beings, of all the sons of men, and, therefore, of all the races of mankind.

The New Testament in the most clear and positive manner states that God "hath made of one blood all nations of men for to dwell on all the face of the earth, and hath determined the times before appointed, and the bounds of their habitation;"* the obvious meaning of which, says Pyle, is that "God hath created the races of man all from Adam, their first parent, whose posterity were by degrees dispersed over the several countries of the earth." In the commentary on the Holy Scriptures, in Hebrew and English, by De Sola and Lindenthal,† it is shown that the word Adam, used in Genesis to designate man, is "the generic name of the human species." Among the Jews, writes the very learned Rosenmüller, "Adam was the generic name of the whole species, and used only, singularly, for the first man (Genesis i. 27), or collectively, as in the 26th and 28th verses of the same chapter, where it must be referred to the whole human race." Taught by the same learned writers we proceed to an examination of the assertion that a plurality of races is proved by the passage, "male and female created he them" (Genesis i. 27); but the original is, "*a male and a female created he them*," and this interpretation will be found to be in the most strict and critical unison with the Hebrew rule, by which a thing thus spoken of is to be limited to one.‡ Speaking of these words "male and female," Bishop Kidder says, "that is, *one* male and *one* female."

In reply to another objection, that the Bible furnishes evidence of different races of men, contemporaneous with the Adamic race, because Moses makes mention of "the sons of God" and "the daughters of Eve;" it may be stated that all Biblical scholars are agreed, that by "sons of God," or, more correctly rendered, *the eminent ones*, the sacred writer is

* Acts xvii. 26. † London, 1846, p. 4.

‡ Compare this passage with 1 Chron. xvii. 3; 2 Sam. vi. 19; Deut. vi. 13; Matthew iv. 10. This Gospel, probably, was first written in Hebrew.

speaking of the descendants of Seth, Enos, and other pious men, in contradistinction to the posterity of Cain.

The Apostle St. Paul, in his Epistle to the Romans (ch. v. v. 12), says, "By one man's disobedience, sin entered into the world, and death by sin; and so death passed upon all men, for all have sinned;" and the same Apostle goes on to urge, that seeing all the world has become guilty before their Creator, God, who "so loved the world as to give his only begotten Son, that whosoever believeth on him might not perish but have everlasting life," now "commandeth *all men every where* to repent, because he hath appointed a day on which he will judge the world in righteousness, by that man whom he hath ordained; whereof he hath given assurance unto *all men*, in that he hath raised him from the dead."

When Eve was created she was called Woman (Genesis ii. 23), "she shall be called woman;" that is, says Bishop Patrick, "partake of my name, as she doth of my nature," "for he called her *Isha*, as he was called *Ish*;" but after the fall Adam called his wife "Eve" (Genesis iii. 20), "because she was the mother of all living;" he had previously, says Dr. Kennicott, called her "woman, because she was taken out of man," and now he called her "Eve, because he found she was still to be the mother of all living;" or, as the Chaldee better translates the passage, "*the mother of all the sons of men*:" the Arabic translation is, "because she was to be the mother of every rational living animal."

We now come to that remarkably clear exposition, by Moses, of the way in which the earth was peopled, (in the 9th chapter of the Book of Genesis, and vv. 17, 18, 19,) "And God said unto Noah, This is the token of the covenant, which I have established between me and *all flesh* that is upon the earth. And the sons of Noah that went forth of the ark were SHEM and HAM and JAPHETH; and HAM is the father of Canaan. *These are the three sons of Noah, and of them was the whole earth overspread.*"

On these three men and their posterity a separate destiny was pronounced: to the race of *Japheth* was promised extension—"God shall enlarge Japheth;" to the children of *Shem*, blessing—"Blessed be the Lord God of Shem;" on the progeny of *Ham* the lot of bondage—"Cursed be Canaan, a servant of servants shall he be;" and to each of these races

would undoubtedly be given a moral and a physical nature in harmony with the destiny God had designed them to fulfil. The race of Japheth have occupied Asia and Europe. By the descendants of Shem, Judaism and Christianity have been established, and from the sons and daughters of Ham have proceeded the nations of Africa—the servants of other nations—and the Canaanites who were the slaves of the Israelites.

This prophecy is the last record given of the life of Noah, who lived 350 years after it was pronounced; "it is a prophecy of the most remarkable character, having been delivered in the infancy of mankind; in its undeniable fulfilment reaching through four thousand years, down to our time; and being even now in a visible course of fulfilment." *

In the tenth Chapter of Genesis is given an account of the generations of Noah, of the sons of Japheth, Ham, and Seth, and by these were the isles of the Gentiles divided; the word rendered Gentiles meaning, more correctly, in the Hebrew, a multitude of people or "*nations*," as the same word is translated in the last Chapter. "These," says the sacred historian—"these are the families of the sons of Noah, after their generations, in their nations; and by these were the nations divided in the earth after the flood."

A very slight examination of this part of the Scriptures will suffice to show an evident intention on the part of Moses to dwell most at length in his genealogy upon that line from which Christ, "the seed of the woman," should proceed. Still, although but little is said in the Bible about the posterity of Cain and of Ham—the race of Seth and Shem being more particularly dwelt upon; enough information (*see our table*) is supplied to enable us to trace some of them. "These are the sons of Ham;" from Ham came the Egyptians, the Libyans, the Phutim, and the Cushim or Ethiopians. Plutarch says that Egypt was called "*Chemia*" or the country of Ham.†

The father of *Cush* (*Chum*) was the brother of Mizraim (*see table*) the father of the Egyptians. In the Bible, the

* Kitto's Bible Cyclopædia. See also Nolan's Bampton Lectures.

† In his work "De Iside et Osiride." See also Calmet's Dictionary, art.

Cushites are the same as the Ethiopians. The name Ethiopian was once given to all those whose colour was darkened by the sun. Herodotus distinguishes the Eastern Ethiopians who had straight hair, from the Western Ethiopians who had woolly hair.* Strabo terms them "a two-fold people, lying extended in a long tract from the rising to the setting sun;" (*i. e.* from East to West). The same description is given by Homer.† Eusebius‡ tells us, the Ethiopians in the West came to Egypt, § from India in the East, and thence passed over the red sea into Africa, the whole of which they peopled. It is the opinion of Dr. Pickering that Ptolemy's most distant country, Agizymba, is Kissimbany in the island of Zanzibar, a Negro country. Sallust, in his Jugurthine war, placed Ethiopia next to the countries "exusta solis

* Herodotus, vii. 69, 70. † Lib. i. p. 60.

‡ Chronicles, p. 26; Calmet, 5—27; Smyth, 35.

§ Dr. Morton thinks there is such a coincidence between all the sources of evidence with regard to the physical characters of the ancient Egyptians, as to have little ground for doubting that this nation was more closely united to the Negro race than any other of the great sub-divisions of the human family; therefore, unless we regard them as having proceeded from a parentage altogether distinct from that of any of the nations by which they were surrounded, we must believe that they constituted a branch of the great African stock, and thus that they are either elevated of the Negro type, or that the Negro races are degraded forms of the Egyptian type. Some curious facts have come to light which prove that the Egyptians, though of a brown or dusky complexion, were not really black, and that considerable difference existed among them in the colour of their skin. Two old Egyptian contracts, the interpretation of which has been given by Professor Boeckh, which, though belonging to the Ptolemaic period, relate to native Egyptians, have been found, describing the parties to the deed by their form and colour; the seller, whose name is *Pamonthes*, is termed μελαγχρως, and the buyer μελιχρως, which has been translated, "of a black," also of "a dark colour," and lastly, "of a yellow, or honey colour." This MS. is at Berlin. The other, which is at Paris, applies the same term to the buyer, who is named *Osarreres*. In this contract it is clear a difference of colour existed between the buyer and seller, sufficiently great to make it a mark by which both could be described. In the opinion of Blumenbach, there are three varieties in the physiognomy expressed in their paintings and sculptures, or three principal types, to which individual figures, though with more or less deviation, may be reduced, viz.:—the *Indian*, the *Ethiopian*, and the *Berberine*. Volney describes the modern Copts—said to represent the old Egyptians—as an approximation to the Negro. Their general complexion is a dusky yellow; but we have the authority of Belzoni for asserting, that some are as fair as Europeans. The modern Egyptians are of two *castes*, or classes—the COPTS and the FELLAHS.

ardoribus," burned and dried up by the heat of the sun. The genuine Negro was most certainly known to the ancients; their portraits are found on Egyptian monuments, and their skulls among the Egyptian mummies.* Mr. Birch frequently found the word *Kush* on Egyptian monuments.

The children of Phut, and the Lubim (*see table*), of a very dark dye, are considered to have been more especially the fathers of the Negro race—settled in Africa. Hence, in ancient days, Lybia, from the Lubim, or Lehabim, appears to have been the general appellation of Africa. We have also some account of Phut. In Mauritania is a river and a region to which he has given the name. St. Jerome writes, "Mauritaniæ fluvius usque ad presens tempus *Phut* dicitur; omnisque circa eum regio Phutensis." We have also the testimony of Zonaras, Josephus, Eusebius, and Apuleius, that all the Ethiopians were descended from *Chus*, or *Cush*. The Hebrew word "Cush" is translated "Ethiopia" not only in our English Bibles, but it is so rendered by the Vulgate, Septuagint, and other versions. Poole remarks, "It is not to be doubted that the term Cushim has, by the interpretation of all ages, been translated Ethiopians, because they were always known by their black colour, and their transmigrations, which were easy and frequent." Rosenmüller informs us that all the lands situated in the South, whose inhabitants have a black skin, are denoted by the word Cush. Mr. Gliddon has proved† that the "hieroglyphical designation of 'KESH,'" exclusively applied to *African* races as distinct from the Egyptians, has been found by Lepsius so far back as the monuments of the sixth dynasty, B. C. 3000; but the great influx of Negro and Mulatto races into Egypt as captives, dated from the twelfth dynasty, when, about the twenty-second century B. C., Pharaoh SESSOUR-TASEN extended his conquests up the Nile far into Nigritia.‡

* Dr. Morton, Crania Egyptiaca.

† Ethnological Journal, No. 7, p. 310.

‡ It is certain that the people spoken of in the Hebrew Scriptures by the national name of Cush, always rendered in the Septuagint by Αἰθιοπες, were the Ethiopians of Meroë, and the subjects of Queen Candace. From the employment of the word by Diodorus, it would appear to have been extended to some of the adjacent nations; but it was always restricted to black people. In the 9th chapter of his 1st Book (Cl. Ptolem. Geog.), Ptolemy observes, "for some

The prophet Jeremiah writes, "Can the Cushite"—(rendered in our Bible "*Ethiopian*," meaning, say Patrick and Lowth, Africans or blackmoors, as they are commonly called)—"Can the Cushite change his skin or the leopard his spots?" Here we find a prophet, many hundred years before the Christian era, mentioning the well-known fact of the existence of a black race of men. Cushites is the denomination Jeremiah gives to them; thus teaching that some of the people who had descended from Cush, the eldest son of Ham, and living in a land which the Septuagint and Vulgate, in common with our own version of the Bible, agree in naming *Ethiopia*, were *Black*. But the word Cushite is applied also to other branches of the same family, as for example to the Midianites, from which people Moses married his wife, and who could not have been Negroes. In the days of Ezekiel the interior of Africa had different races; for he speaks of Cush, Phut, Lud, and Chub, as either constituting themselves, or as being amalgamated with a mingled people. The term Cushite is used in Scripture to denote a people who were not black, and also countries south of Egypt, whose inhabitants were Negroes; yet both races are the descendants of *Cush*, the son of *Ham*.

With one other quotation from the sacred volume we must reluctantly close this portion of the argument, already extended beyond our prescribed limits. "When the Most High divided to the nations their inheritance, when he separated the sons of Adam, he set the bounds of the people according to the number of the children of Israel." (Deut. xxii. 8.)

The conclusion to which Rosenmüller, one of the most

distance beyond the tropic the native people are only of a moderately dark colour, as are those who live thirty schœni beyond Syene; but in the country about Meroë the people are quite black, and for the first begin to be complete Ethiopians." Dr. Prichard thinks that it is clearly established that the Cush are the genuine Ethiopian race, and that the country of Cush is generally in Scripture that part of Africa above Egypt. In addition to the authorities quoted in the text, including the Septuagint and Vulgate, there is the concurring testimony of Philo, Josephus, Eupolemus, Eustathius, and all the Jewish commentators and Christian fathers. Michaëlis says the land of Cush was Ethiopia. The daughter of Jethro, the Midianite, is termed a Cushite woman; and it is not a little curious that even in this instance the correspondence between Cush and Ethiopia has been maintained.

learned critics of the German school, has arrived is this, "*that from two human beings the universal race of men drew their origin;*" in other words, that all men, even the Negro race, are from the same original stock, and that from the same parents races of different colour and physiognomy have proceeded. Enough has been written to prove that there is a curious, if not a remarkable analogy,* between the predictions of Noah on the future descendants of his three sons, and the actual state of those races generally supposed to have arisen from them. Cuvier, we have already seen, is of opinion that the primary varieties of the human form are three, the Caucasian, the Mongolian, and the Ethiopian. This number corresponds with that of Noah's sons: assigning, therefore, the Mongolian race to Japheth, the Ethiopian to Ham, the Caucasian, the noblest race, will belong to Shem, the third son of Noah, himself descended from Seth, the third son of Adam (*see table*). That the three sons of Noah, who were to re-people the earth after the flood, and on whose progeny very opposite destinies were pronounced, should give birth to different races, is what might reasonably have been expected; still that the observations of those who do and those who do not believe the Mosaic history should tend to confirm its truth, by pointing out in what these three races do actually differ, both morally and physically, is, to say the least, a singular coincidence; in short, it amounts to presumptive evidence that a mysterious and very beautiful analogy pervades throughout, and teaches us to look beyond natural causes in attempting to account for effects apparently interwoven in the plans of the Omnipotent.

We proceed, lastly, to consider the proofs of the unity of our species altogether without reference to the Sacred Volume. The origin of mankind from a single stock, or from a variety of stocks, must therefore be regarded in this division of the work as a matter of purely scientific inquiry; and it may be well, in the first place, to examine if there be any such difference between a black man and a white man, between an African and an Englishman, in the colour of his skin,—the nature of his hair,—the formation of the skull and pelvis,—or any other physical peculiarity, as to constitute a distinct species.

* Murray's Encyclopædia of Geography, p. 225.

Microscopic anatomy has recently very satisfactorily proved that the colour of the skin exists in the epidermis only, and that it is the result of the admixture of pigment cells with the ordinary epidermic cells. The office of these pigment cells appears to be the withdrawing from the blood, and elaborating in their own cavities, colouring matters of various shades; and all the different hues which are exhibited by the eleven races of man, depend on the relative quantity of those cells, and the colour of the pigment deposited in them. The "rete mucosum," which was once described as a separate colouring layer underneath the epidermis, is simply the new soft layer of epidermis. If we examine the skin of the Negro anatomically, we shall find no structure peculiar to it; for the very same dark cells are found in the fairest of mankind. It would, however, appear at the first glance, that the black and white races of men—the fair Saxon, the black African, the olive Mongolian, and the "red man" of North America, are positively separated from each other, and that this peculiar colour of the skin, transmitted, as it has been, from father to son, generation after generation, ought to be accepted as an undoubted specific distinction; but it has been well suggested, by an able reviewer of Dr. Prichard's work,* that a more extended survey tends to break down any such distinction; "for, on tracing this character through the entire family of man, we find the isolated specimens, just noticed, to be connected by such a series of links, and the transition from one to the other to be so very gradual, that it is impossible to say where the line should be drawn. *There is nothing which at all approaches to the fixed and definite characters, which the zoologist admits as specific distinctions amongst other tribes of animals.* On the other hand, we find such a *constant relation between climate and the colour of the skin, that it is impossible not to perceive the connection between them.* The parts of the globe included between the tropics, or closely bordering upon them, form the exclusive seat of the native black races, whilst the colder temperate regions are the residence of the fair races; and the intermediate countries are inhabited by people of an intermediate complexion." Some

* Brit. and For. Med. Rev., p. 68.

members of the Jewish nation, scattered throughout the colder regions of Europe, where they have been acclimatised during a sojourn of many hundred years, have assumed, in some degree, the lighter tints of complexion, and the yellow, red, and brown hair, of the people inhabiting the same country with them. This last fact has been thought, both by Dr. Prichard and others, to be one of great importance, as proving the influence of climate, continued through a long series of years, on the colour of the skin; the more so, because it is well known, that, from national and religious prejudices, the Jews are altogether separated from the people among whom they are living. It is probable that in nations, and in individuals, a pre-existing tendency to a swarthy complexion will cause the effect of long-continued exposure to an African climate to be more marked and decided, in blackening the complexion, than in cases where we have proof, in the fair transparent skin, of an indisposition to the secretion of a dark-coloured pigment in the epidermic cells; and for this reason the Jews are sooner darkened than a Saxon or a Celt would be. "The same remark," says the reviewer just quoted, "holds good with regard to other nations than the Jews: the descendants of the early Portuguese settlers in India have become, in many instances, as dark as the Hindoos around them." This change, no doubt, is to be in part attributed to an intermixture of races; but still, the complete merging of the original complexion, whilst other characters of the European stock are retained, shows that such an intermixture by no means fully accounts for the change.

The would be attempted difference of species between the Negro and the European, from the colour of the skin, is altogether opposed to the various phenomena which are exhibited by all the principal races of men. *First*, we have albinoism, or the absence of pigment cells; so that the child of a Negro woman, by a Negro man, may be born with as white a skin as the fairest lady in the court of her most gracious Majesty. "In the case of two Albino children," says Dr. Pickering,* "the Negro aspect had so entirely disappeared, that they might have passed for the children of

* Chapter ix. The Negro Race, p. 187.

Europeans, but for the remarkable appearance of the hair, which I could only compare to a white fleece."

Many years ago we saw, with Mr. Guthrie, F.R.S., a patient at the Ophthalmic Hospital. He was very tall; the features those of a Negro; the head was long and narrow, and covered with woolly hair; the skin was white; the hair yellow. He had been born of Negro parents. A gentleman present said, he had seen, not far from London, a few days before, a child, born of English parents, the face, hands, arms, and neck of which are white, the legs and a portion of the abdomen black. Some years ago, a patient was brought to one of the metropolitan hospitals, partly black and partly white.

The hue of the skin varies, in the dark-coloured races, from a deep black, which is the hue in some African nations, to a much lighter, or, as Dr. Prichard terms it, a more "*dilute shade*;" that is, the colouring pigment is of a lighter colour. The dusky hue is combined, in some nations, with a mixture of red, in others with a tinge of yellow. The former are the copper-coloured nations of America and Africa; the latter, the olive-coloured races of Asia. In the deepness, or intensity of colour, we find every shade of gradation, from the black of the Senegal Negro, or the deep olive, and almost jet black of the Malabars, and some other nations of India, to the light olive of the northern Hindoos. From that, every variety of hue may be traced among the Persians and other Asiatics, to the complexion of the swarthy Spaniards, or of the black-haired Europeans in general.

Taking the colour of the hair as a leading characteristic, Dr. Prichard divides mankind into three principal varieties of colour—the MELANIC, the XANTHOUS, and the LEUCOUS.

a. Melanic. The black-haired, melanocomous, or melanous varieties distinguished by black, or very dark hair.

b. The *Xanthous* variety, characterised by yellow, red, or light brown hair; eyes, blue, or some light colour; skin, fair.

c. The *Leucous* variety. Individuals of this class are termed *Albinos*; the distinguishing characters are a *red* hue of the choroid; the hair is either white, or a pale yellow

* Physical History, vol. i. p. 220.

cream colour; in texture it is soft and gives to the touch the sensation of combed flax; the skin is very fair, and even in albinos born in the Negro-race, is easily blistered and reddened when exposed to the sun. Examples of this variety have been noticed in almost every country. The following is the description given of them by Captain Cook:—"During our stay on this island (*Otaheite*) we saw five or six persons whose skins were of a dead white, almost the same colour as the nose of a white horse; we found no two of these belonged to one family; they had white hair, beard, eyebrows, and eye-lashes."* It is clear, however, that these White Negroes described by Wafer,† Banks, Dr. Solander, Dubois, Dr. Goldsmith, and others, are not all of them Albinos, but belonging to the Xanthous variety, which appears at times not only in those melanocomous races which are of a less swarthy shade, but in others. Amongst the ancient Egyptians it would appear to have now and then arisen. Diodorus remarks that red-haired persons were not frequent in the native stock of Egypt, but light brown hair has been found on Egyptian mummies; and among the Negro tribes of Africa, both in their native climate and in other places to which they have been transmitted, the Xanthous variety frequently arises.‡ The skin is sometimes quite healthy in appearance, and the complexion ruddy, as in an European of sanguine temperament. Pallas§ has given a very minute description of a white Negress, born in Jamaica of Negro parents, and seen by him in London in 1761. He says she was small in stature, and had a fair complexion, with ruddy lips and cheeks. The iris of her eye was neither red nor blue, but of a brownish-grey colour. Her hair was of a yellow colour, or what the French call "*blond.*" This girl had negro features strongly marked and every appearance of genuine negro descent.

We have also a description from the pen of Mr. Burchell of an individual of the Xanthous variety, born from the race of black Kafirs in South Africa; the parents were genuine Kafirs. She was sixteen when Mr. Burchell saw her, "*the*

* Cook's Voy., apud Hawkesworth, vol. ii. p. 188.
† Philosophical Transactions, 1699.
‡ Prichard, vol. i. p. 228.
§ Novæ Species Quadrupedum, pp. 10, 11.

colour of her skin was that of the fairest European, or more correctly described it was more pink and white. Perhaps it will be more intelligible to a painter," says this gentleman, "if I describe it as being compounded of a pure white, and a moderate tint of vermilion, without the admixture of any other colour.' Her hair was of the same woolly nature as her countrywomen, but it was of a singularly pale hue, nearly approaching to the colour which is termed flaxen. Her features, however, were those of a genuine Kafir."

Dr. Ascherson mentions a boy having at his birth white hair and violet-coloured eyes with dark red pupils; at the age of three years the hair had become a light brown, and the eyes blue. Speaking of this boy, Dr. Graves, of Dublin, says, "it was my good fortune to meet with a similar case myself. In my younger days there were two children, a brother and sister, living near me, who presented such striking symptoms of leucosis in their eyes, hair and skin, that they were recognised as Albinos even by non-medical persons. My attention was lately drawn to them by an advertisement in which their name occurred, and I learned that the brother had become a tobacconist; *but to my great astonishment when I went to see him I found his eyes had changed from violet-red to grey, and his hair from white to light brown, and that the susceptibility of the eyes to light had greatly diminished.*"*

We frequently meet with persons of a swarthy complexion and dark black hair amongst our neighbours and friends, who are altogether free from any admixture of sable blood; their skins are white, but not so fair and transparent as the light-haired; when exposed to the sun the complexion of the black-haired soon assumes a yellow or brownish hue. It may also be pointed out that we have daily examples of the development of pigment cells in particular portions of the body; to this may be traced the tan or summer freckle, the result of the action of the sun and light, which occasions an aggregation of brown or red pigment cells,—to the same source must be traced the dark black areola around the nipple during pregnancy, and this too in the fairest of women; at the same time it is by no means an unfrequent occurrence to see large portions of the body become dark or even blackened.

* Dublin Journ. of Med. and Chem. Science, No. XV.

While, on the one hand, Dr. Prichard has collected evidence of the springing up of the *Xanthous* variety out of every melanocomous tribe, and there is something in the temperately cold regions of Europe and Asia which favours its production, *for it is in some instances the general character of whole tribes*—there exists on the coast of Malabar a race of Jews, which is known by the name of "White Jews," and who, from documents in their possession, appear to have migrated to India soon after the destruction of the Temple by Titus, but who still resemble European Jews in features and complexion.* The Jews, like the Arabs, are generally a black-haired race; but many Jews may be seen with light hair and beards; and in some parts of Germany the Jews are remarkable for red bushy beards.

Every shade of colour clothes with its tints the body of the Jew, from the jet black of the Hindoo to the ruddy white of the Saxon. On the Malabar coast, to which reference has just been made, is a second colony of Jews, perfectly black.† Thus even Hamilton Smith admits‡ in the Caucasian race every variety of colour, from pure white down to melanism nearly as deep as the genuine Negro.

On the other hand, Dr. Prichard has shown that there are instances in which fair races have become dark, without any considerable change in external conditions. We find the Germanic nations, which were unanimously described by ancient authors as very fair, possessing red or yellow hair, and blue or gray eyes, have become much darker since that time, so that these peculiarities are far from being common amongst them, and must now be rather looked for in Sweden. That an amelioration of the climate of central Europe has taken place during the same period cannot be doubted; but the climatic change scarcely seems decided enough to account for such an alteration in the physical characters of the population. Explain the fact as we may, it is an evidence of the variability of the races of men, since it is altogether impossible to question the purity of the descent of the Germanic nations, or that the change of complexion has resulted from any admixture of a foreign element.

* On the Animal Kingdom and Unity of the Species, by J. C. Hall, M.D., p. 141. † The White Jews are at Mattacheri, a town of Cochin.
‡ Natural History, p. 368.

With regard to the *hair*, it may be shown by microscopic examination that the hair of the Negro is not really wool, and that it differs in its intimate structure from that of the fairer races only in the greater quantity of pigmentary matter which it contains in its interior; and the same may be said of the jet-black hair so often seen in England. The crisp twisted growth of the Negro hair is the only character by which it can be separated from the straight; and this cannot for a moment be relied on as a proof of original difference, since these national variations do not exceed those which present themselves within the limits of any one race, and we daily meet Europeans with hair quite as black and woolly as that of the Negro; and if we examine the tribes in Africa, every possible gradation is found, from the so-called woolly hair to simply curled, or even flowing hair. The fact of red hair occurring amongst the Negroes of Congo has been alluded to by Blumenbach, who saw many Mulattoes with red hair. Dr. Prichard observes, that even if the hair of the Negro were really analogous to wool, which it is not, "it would by no means prove him to be of a peculiar and separate stock, unless the peculiarity were constantly presented by all the nations of Negro descent, and were restricted to them alone; for there are breeds of domesticated animals which have wool, whilst others of the same species, under different climatic influences, are covered with hair."* Two other popular distinctions between hair and wool may be drawn from the fact that wool falls off altogether in a mass, and leaves the animal bare, while hairs fall off singly, and from time to time. The growing part of the fibre of wool varies in thickness according to the season, being thicker in proportion to the warmth of the atmosphere, and smallest of all in winter; on the contrary, the filament of hair is generally of uniform thickness, or tapering a little towards a point.†

* The hairs issue from bulbs or roots, situated in the cellular web, under the cutis; these bulbs have an external vascular root, which is probably the source whence the hair derives its nourishment; there is, besides, a membranous tube or sheath which envelopes the hair, and passes out with it through the different layers of the skin. The hair consists of an external horny covering, with an internal vascular part—the medulla, or pith. The colouring principle is evidently of a common nature in the skin and hair.

† Bakewell on Wool, p. 9.

The peculiarities observed in the structure of the bony skeleton, more particularly of the cranium and pelvis, next claim attention; for these have been thought to furnish more important guides for the separation of the races of men into distinct species than either the colour of the skin or the texture of the hair. Since the works of Camper and Blumenbach appeared, repeated efforts have been made to arrange the different members of the human family into distinct species, the conformation of the skull being the guiding characteristic. To select a Negro, an European, an American, or a Malay skull, when strongly-marked peculiarities were presented, would probably be no very difficult task; but are these types common to the entire races they are said to represent?—have they that permanency and invariability which is requisite to found a specific distinction?—and the facts which have been accumulated in answer to these enquiries prove, 1st, That these peculiarities are far from constant in the several nations of one race, or even in the several individuals of one nation; and, 2nd, That external conditions being improved, they are liable to undergo alterations,—changes which every influence that exalts the general habits of life, and calls into exercise the faculties of the mind, has no inconsiderable influence in producing. The leading types of configuration of the skull are reduced by Dr. Prichard to three; and he states there is sufficient evidence for connecting them with different habits of life. Amongst the rudest tribes of men, hunters, and the savage inhabitants of forests, dependent for their supply of food on the accidental produce of the soil or on the chase, among whom are the most degraded of the African nations and the Australian savages, a form of head is prevalent which is most aptly distinguished by the term prognathous, indicating a prolongation or extension forwards of the jaws; and with this characteristic other traits are connected.

A second shape of the head, very different from the last-mentioned, belongs principally to the Nomadic races, who wander with their herds and flocks over vast plains, and to the tribes which creep along the shores of the Icy Sea, and live partly by fishing, and in part on the flesh of their reindeer. These nations have broad and lozenge-shaped faces, and what Dr. Prichard has termed pyramidal skulls. The

Esquimaux, the Laplanders, Samoiedes and Kamtschatkans, belong to this department, as well as the Tartar nations, meaning the Mongolians, Tungusians, and Nomadic races of Turks. In South Africa, the Hottentots, formerly a nomadic nation, who wandered about with herds of cattle, over the extensive plains of Kafir-land, resembling, in their manner of life, the Tungusians and the Monguls, have also broad faces, pyramidal skulls, and, in many particulars of their organisation, resemble the northern Asiatics. Other tribes in South Africa approximate to the same character; so do many of the native races of the New World.

The most civilised races,—those who live by agriculture, and the arts of cultivated life—all the most *intellectually improved* natives of Europe and Asia,—have a shape of the head which differs from both the forms above mentioned. The characteristic form of the skull among these nations may be termed oval, or elliptical.*

It has been proved that all these typical forms are not permanent, but are capable of being altered under the influences of civilisation; and Mr. Lyell found, after numerous inquiries from medical men, resident in the Slave States of America, and the testimony of all who have paid any attention to the subject is to the same effect, that, without any admixture of races, the Negroes who are brought into close contact with the Whites approximate, each succeeding generation, more and more to the European configuration of head and body.

Another example of the modification of the form of the skull, out of the many before us, is supplied by the descendants of those tribes in the North and East of Europe, who appear to have been in possession of it before the arrival, in that part of the globe, of the races of Indian descent. Some of these are well known under the name of *Lapps* and Finns, whose similarity of origin cannot be doubted, although they now present the most important differences in their physical formation. The Lapps still maintain, in a remarkable manner, the pyramidal skull, whilst in the modern Finn the skull is becoming more and more oval. We have close at our own doors an example of a degenera-

* Natural History of Man, p. 108.

tion in the form of the skull, as the result of the continued application of depressing physical, and degrading moral influences, to which Dr. Prichard has alluded, and which is thus faithfully and graphically described in the "Dublin University Magazine:" *—

"On the plantation of Ulster, and afterwards on the successes of the British against the rebels of 1641 and 1689, great multitudes of the native Irish were driven from Armagh and the south of Down into the mountainous tract extending from the barony of Flews eastward to the sea; on the other side of the kingdom the same race were expelled into Leitrim, Sligo and Mayo. Here they have been almost ever since exposed to the worst effects of hunger and ignorance—'*the two great brutalisers of the human race*—.' The descendants of these exiles are still readily distinguishable from their kindred in Meath and in other districts where they are not in a state of physical degradation; being remarkable for open projecting mouths, with prominent teeth and exposed gums, their advancing cheek bones, and depressed noses, bearing barbarism on their very front. In Sligo, and northern Mayo, the consequences of two centuries of degradation and hardship exhibit themselves in the whole physical condition of the people, affecting not only the features but the frame, and giving such an example of human deterioration from known causes as almost compensates by its value to future ages for the suffering and debasement which past generations have endured in perfecting its appalling lesson. Five feet two inches upon an average, pot-bellied, bow-legged, abortively-featured, their clothing a wisp of rags,—these spectres of a people that were once well grown, able-bodied and comely, stalk abroad into the daylight of civilisation, the annual apparitions of Irish want and ugliness. In other parts of the island where the population has never undergone the influence of the same causes of physical degradation, it is well known that the same race furnishes the most perfect specimens of human beauty and vigour, both mental and bodily."

Professor Weber has made a most careful examination of the different forms of the human *pelvis;* he has proved that all the existing varieties in the shape of this bony structure reduce themselves to *four* principal forms, which are described by him in substance as follows:—

a. *The oval form—Die oval ur-becken-form.* In this kind of pelvis the upper opening is egg-shaped, "in such wise that this aperture at the anterior part, viz., at the symphysis pubes, is narrow, but towards the middle of the same aperture, and the junction of the ilia with the os sacrum, becomes

* No. xlviii.

gradually and proportionally widened," and again becomes somewhat narrower in passing backwards towards the promontorium, when it ends in an obtuse point.

b. *The round form pelvis;* a pelvis in which the upper opening is round; the circumference, particularly at the symphysis and horizontal branches of the pubes, is more spread out than in the round oval form, whereas the conjugate has nearly the same extent as the transverse diameter.

c. *The square*, or four-sided form, is the shape of a pelvis of which the sides, especially that formed by the os pubis, are flat and broad, so that the upper opening forms nearly a perfect square; the transverse diameter is greater than the conjugate.

d. *The wedge shape—Keil-formige ur-becken-form*, belongs to the pelvis which appears on both sides compressed, so as to be narrower from side to side than from front to back. The ossa pubis unite under an acute angle, and the horizontal branches run backwards in a straighter direction than in the oval form; the conjugate is lengthened, and the upper opening is oblong, rather than oval.

All the existing varieties in the form of this bony structure belong to one or other of the above four principal forms; and as specimens of each form can be found in the different races of men, it follows, that there exists no particular figure of the pelvis which is a permanent characteristic of any one race. M. Weber has also laid down a similar arrangement in the forms of the skull, maintaining that four principal forms, bearing corresponding designations, may be pointed out in the shapes of the head, and that skulls presenting a conformity with each and every one of these principal types, are to be found in several different races.

Differences in other parts of the body undoubtedly present themselves, if individuals of one race be compared with those of another. The bones of the leg of the Negro are much more *convex* in front than in Europeans, producing what is commonly known as "*the cucumber-shin;*" the foot is less arched, being broad and flat, but the same conformation is often seen in Europeans. It has been said that skeletons of Negroes have sometimes *six* lumbar vertebræ, but Dr. Prichard saw an instance of this in an European. With regard to stature, the same physician observes, that "there

are no varieties of stature in different nations which are so considerable as those which frequently occur in the same family."*

We have now examined the principal peculiarities which have been relied upon by those naturalists who seek in them authorities for dividing mankind into different species; but the *colour of the skin*—the *texture of the hair*—the *shape of the skull*—the *form of the pelvis*, &c., &c., have alike failed to supply, either singly or collectively, the slightest grounds for maintaining any valid specific distinctions.

Both Blumenbach and Lawrence† have remarked that no naturalist can carry his scepticism so far as "to doubt the descent of the domestic swine from the wild boar." All the varieties, therefore, through which this animal has since degenerated, belong, with the original European race, to one and the same species; and since no bodily difference is found in the human race, either in regard to stature, colour, the form of the skull, or in any other respect, which is not observed in the same proportion in the swine race, this comparison, it is to be hoped, will silence those sceptics who have thought proper, on account of those varieties of the human species, to admit more than one species. The whole difference between the cranium of a Negro and that of an European is not in the least degree greater than that equally striking difference which exists between the cranium of the wild boar and that of the domestic swine; and Blumenbach continues, "I now add, the swine in some countries have degenerated into races which, in singularity, far exceed everything which has been found strange in bodily variety amongst the human race. *Now as it is absurd to maintain that the vast variety of swine have not descended from one original pair, so is it not less unreasonable to contend that the varieties of man constitute so many distinct species.*"

It was contended by Cuvier that the "human species must be single since the union of any of its members produces individuals capable of propagation:" although this is now known to be not strictly correct, we are, nevertheless, inclined to attach more weight to it than many other natu-

* Vol. i. p. 358. † Page 250.

ralists of the present day. It has been shown by Dr. Prichard* that distinct species do not freely intermix their breed, and hybrid plants and animals do not propagate their kind, at most beyond a very few generations, and no real hybrid races are perpetuated; but mixed breeds, descended from the most distinct races of men, are remarkably prolific; the inference he draws is obvious—if the mixed propagation of men does not obey the same laws which universally govern the breeding of hybrids, the mixed breeds of men are naturally hybrid, and the original tribes from which they descend must be considered as varieties of the same species.†

The infertility of hybrids has always been a stumbling-block in the way of the theory which is opposed to the unity of our species: to a consideration of this question, Dr. Bachman‡ has brought much learning, the most patient industry, and an immense amount of facts; and he is satisfied "that all the ingenuity of the believers in the fertility of hybrids is insufficient to produce a solitary case in which they have clearly proved that a single race of animals, or birds, has been perpetuated from hybrids of two or more species." In the case of the common cow with the buffalo, among quadrupeds, and that of the common and China goose, among birds, which are the only two very well attested cases, hybrids have been productive, but barely for one or two generations, and could not be prolonged without returning to the pure blood of either stock.

Professor Owen says, "The tendency of all the natural phenomena relating to hybridity is to prevent its taking place, and when it has occurred, to arrest the propagation of varieties so produced, and to limit their generative powers so

* Vol. i. p. 375.

† Dr. Carpenter, after considering, in a very interesting chapter in the later editions of his "Principles of Physiology," the mutual relations of the principal branches of the human family, concludes, that from the analogical argument derived from the phenomena presented by the domesticated species among the lower animals, and from none of the variations existing between the different races of mankind having the least claim to be regarded as valid specific distinctions, we are required, by the universally received principles of Zoological Science, to regard all the races of mankind as belonging to the same species, or as having had an identical or similar parentage.—Pp. 53, 64.

‡ On the Unity of the Species.

as to admit only of reversion to the original specific forms; the individuals of different species do not voluntarily copulate. In a few exceptionable cases, serving only to establish the rule of their inferiority, specific hybrids have been known to propagate together and produce a degenerate intermediate race, which soon becomes extinct. It more commonly happens that a hybrid is sterile, or propagates only with an individual of pure breed."

It may be stated, then, 1st, That there is no case on record where a single new race of animal or bird has sprung up from an association of two different species; 2nd, That all the varieties of the human species are known to propagate with each other, and to produce a fertile progeny, which has continued for ages to propagate, and in this way new races (*varieties*) have been formed and perpetuated. The accounts with which the Crania Americana of Dr. Morton is pregnant fully prove that many intermediate tribes of nations have derived their origin from an admixture of Mongolian, Malayan, American, Caucasian, and African blood. There is a large and increasing tribe in South Africa, called the Griqua, on the Orange River, being a mixture of the original Dutch settlers with the Hottentots. This tribe consists of more than five thousand.

The following facts at this stage of the inquiry cannot fail to be read with much interest. It is not a little singular that it often happens, when the parents are of two different varieties,—as, for example, one of the xanthous and the other of the melanous variety,—the offspring frequently presents the physical peculiarities of one parent entirely. It would appear, also, that in certain families of Negroes there is an hereditary tendency to produce white children. An instance is related by Dr. Parsons.* In a small plantation belonging to a widow lady, two of her slaves, being black, were married, and the woman brought forth a white girl. When the poor woman was told the child was like the children of white people, she was in great dread of her husband, and therefore begged that they would keep the place dark, that he might not see it. When he came to ask her how she did, he wanted to see the child, and wondered why the room was shut up, for it was not usual. When he had the child brought to the

* Philosophical Transactions, vol. iv.

light he was highly delighted, and said to his wife, "You are afraid of me, and therefore keep the room dark, because my child is white. But I love it the better for that; *for my father was a white man, though my grandfather and grandmother were both as black as you and myself, and though we came from a place where no white people were ever seen, yet there was always a white child in every family that was related to us.*" At the age of fifteen the child was sold to Admiral Ward, and brought to London in order to be shown to the Royal Society.

Dr. Parsons also describes a girl that he saw in London in the year 1747. The *father* was a *black man*, servant to a gentleman who lived in the neighbourhood of Gray's-Inn-Lane, the *mother a white* (*English*) *woman*, who lived in the same family. When the infant was born, it was as fair to look at as any offspring of white parents, and her features exactly like the mother: "*the right buttock and thigh were as black as the father, as my notes specify.*"

Dr. Prichard mentions the case of a Negress who had twins by an Englishman: "*one was perfectly black, with short woolly curled hair; the other was white, with long hair.*"*

We have already pointed to spoken language as one grand feature of distinction between all the races of man and that animal which philosophers may please to select to connect the last link in the chain of human nature with the brute creation. That language should exist at all, and that it should exist among every people and community of the earth, however low in the scale of civilisation, is in itself a powerful argument for the unity of our species: in truth, the classification of language is the classification of mankind, and the migration and intermixture of languages are records of the changes and movements of man over the face of the globe. The unity of all human languages, if it could be established, would be a powerful proof of the unity of all the races of man. What number of words found to resemble each other in different languages would warrant the conclusion that they had a common origin, is a question that has been asked, and to the answering of which Dr. Young has applied the mathematical test of his calculus of probabilities. He concludes that "nothing could be inferred as to the relation

* P. 370, vol. i.

of any two languages, from the coincidence of sense of any single word in both of them: the odds would be three to one against the agreement of any two words; but if three words appear to be identical, it would then be more than ten to one that they must be derived in both cases from some parent language, or introduced in some other manner; six words would give more than seventeen hundred chances to one; and eight, nearly one hundred thousand; so that in these cases the evidence would almost amount to a certainty." Ethnography, says a recent writer,* "has furnished conclusive evidence that the family of American languages has had a common origin with that of Asia. A lexical comparison has established an identity in one hundred and seventy words, although this study is yet in its infancy, and this is an argument which cannot be controverted."

All dialects, says the Petersburg Academy,—"all dialects are to be considered as the dialects of one now lost. It is the opinion of Klaproth, 'that the universal affinity of language is placed in so strong a light, that it must be considered by all as completely demonstrated.' Herder, who does not believe the Mosaic record, admits 'that the human race, and language therewith, go back to one common stock, to a first man, and not to several dispersed in different parts of the world.' Balbi most truly asserts, that no monument, 'either historical or astronomical,' has yet been able to prove the books of Moses untrue; but with them, on the contrary, agree in the most remarkable manner the results of the most learned philologers and the profoundest geometricians."

It is indeed interesting to note, how much recent discoveries, as well as the classification and nomenclature of languages previously adopted, connect themselves also with the recorded tripartite division of mankind into the three great families, the dispersion of which, after the Scriptural deluge, we have already traced. Some of the most remarkable results, suggests a very high authority,† recently obtained, "are those which disclose relations hitherto unsuspected or unproved, between the language of ancient Egypt and the *Semitic*, and Japhetic languages of Asia; thus associating together, in probable origin, those three

* The Unity of the Human Race, by the Rev. T. Smyth, D.D., p. 219.

† Quarterly Review, December, 1849.

great roots which, in their separate diffusion, have spread forms of speech over all the civilised parts of the world. Taking the Japhetian, or Indo-Teutonic branch, we find these inquiries embracing and completing the connexions between the several families of language which compose this eminent division of mankind, already dominant in Europe for a long series of ages, and destined, apparently, through some of its branches, to still more general dominion over the globe." One of the results of this refined analysis has been the reduction of the *Celtic* to the class of Indo-Teutonic languages, through the labours of Bopp, Prichard, and Pictet, whereby an eighth family is added to one great stock, and the circle finished which defines the relation of the one to the other, and also to the other languages of mankind. And, although many nations of the earth have been settled in their present countries at a period even beyond the reach of exact historical tradition, still, says Schlegel, their languages are manifestly nearer, or more distant varieties of a single mother tongue, spoken by one family of people, and prove, that in a distant and intermediate antiquity emigration took place over wide tracts of country, from a common and original abode. This is no hypothesis, but a fact clearly made out.* Dr. Prichard, from the beginning to the end of his valuable volumes, places a very high value upon *fundamental affinities of language, as proving a family relationship amongst groups of nations.*" We are told by Moses, (Gen. xi. 1,) "the whole earth was of one language (*lip*) and one speech," and that during the building of the Tower of Babel, "God confounded their language, that they might not understand one another's speech." The learned are not now agreed whether we have any remains of the primitive language of man; and on this point the Scriptures supply no information. It is probable that the old Hebrew or Syriac is the most ancient language that has descended to us; and the Jewish historians state that the sons of Eber, or Heber, did not take a part in the building of the tower, and, therefore, retained the primitive language,—an opinion supported only by tradition. Sir W. Jones says, "the original language is entirely lost." The result of the first inquiries into this subject appeared alto-

* Preface to Prichard's Egyptian Mythology, pp. xix, xx.

gether adverse to the Mosaic record; but more mature and extended labours, in which the scholars of the German universities pre-eminently shine, show, that the 3064 languages of Adelung, and the 860 languages, and 5000 dialects of Balbi, may be reduced to eleven families, and these, again, are found to be not primitive and independent but modifications of some original language.*

We shall conclude this part of the argument almost in the words of the Chev. Bunsen,† one of the most able writers on this subject, who, after giving a classification of the languages of men, and stating the two possible hypotheses: *first*, that there has been a great number of beginnings, out of which different tribes have sprung, and with them different languages; and *second*, that the beginning of speech was made only once, he continues,—

"If the first supposition be true, the different tribes or families of languages, however analogous they may be, as being the produce of the same human mind upon the same outward world, by the same organic means, will, nevertheless, offer scarcely any affinity to each other, in the skill displayed in their formation, and in the mode of it; but their very roots, full or empty ones, and all their words, monosyllabic or polysyllabic, must needs be entirely different. There may be some similar expressions in those inarticulate bursts of feeling, not reacted on by the mind, which grammarians call interjections. There are, besides, some graphic imitations of external sounds, called onomatopoetica,—words, the formation of which indicates the, relatively, greatest passivity of the mind. There may be, besides, some casual coincidences in real words; but the law of combination, applied to the elements of sound, gives a mathematical proof that, with all allowances, such a chance is less than one in a million for the same combination of sounds, signifying the same precise object. If there be entirely different beginnings of speech, as philosophical inquiry is allowed to assume, and as the great philosophers of antiquity have assumed, there can be none but stray coincidences between words of a different origin. Referring to what has already been stated, as the

* Wiseman's Lectures. See also Encyclopædia Brit., vol. vi. p. 275.

† The results of recent Egyptian researches, in reference to Asiatic and African Ethnology, and the classification of Languages, read before the British Association at Oxford, by C. C. J. Bunsen, D.C.L.

result of the most accurate linguistic inquiries, such a coincidence does exist between three great families spreading from the North of Europe to the tropic lands of Asia and Africa. *It there exists, not only in radical words, but even in what may appear as the work of an exclusively peculiar coinage,—the formative words and inflections which pervade the whole structure of certain families of languages,*—and *are interwoven, as it were, with every sentence pronounced in every one of their branches. All nations which, from the dawn of history to our days, have been the leaders of civilisation, in Asia, Europe, and Africa, must consequently have had one beginning. This is the chief lesson which the knowledge of the Egyptian language teaches us.*"

It is very true this statement of the very learned writer just quoted has more especial reference to the *Semitic*, Japetic, and Chametic languages only; but the same reasoning and conclusions equally apply to the Turanian stock, that stock being a branch of the Japetic. Thus, in a most wonderful and altogether unexpected way, modern Egyptological researches have greatly contributed to establish the proofs of a common origin of all the languages of the globe, and to strengthen the evidence of all the races of man having derived their existence from one common parent.

OPINIONS OF THE MOST LEARNED NATURALISTS ON THE UNITY OF OUR SPECIES.

ADELUNG.

In the introduction to his great work on language, ADELUNG* has summed up what history discloses to us on this subject; and, as it has an important reference to the present object of inquiry, I hope the length of the extract will be excused.

"Asia has been in all times regarded as the country where the human race had its beginning, received its first education, and from which its increase was spread over the rest of the globe.

"Tracing the people up to tribes, and the tribes up to

* *Mithridates, oder allgemeine Sprachenkunde*, &c. 1r. Th. Berlin, 1806. 2r. 3r. 4r. Th. von. J. S. Vater, Berlin, 1809—1817, a most important work in relation to the history of our species, and the affinities and migrations of various tribes.

families, we are conducted at last, if not by history, at least by the tradition of all old people, to a single pair, from which families, tribes, and nations have been successively produced. The question has been often asked, what was this first family, and the first people descending from it? where was it settled? and how has it extended so as to fill the four large divisions of the globe? It is a question of fact, and must be answered from history. But history is silent; her first books have been destroyed by time, and the few lines preserved by Moses are rather calculated to excite than satisfy our curiosity.

"In the first feeble rays of its early dawn, which are faintly perceived about 2000 years before the commencement of our present chronology, the whole of Asia, and a part of Africa, are already occupied with a variety of greater and smaller nations, of various manners, religion, and language. The warlike struggle is already in full activity: here and there are polished states, with various useful inventions, which must have required long time for their productions, development, and extension. The rest of the human race consists of wild hordes occupied merely with pastoral pursuits, hunting, and robbery; thus a kind of slave-trade is seen in the time of Abraham. Soon after a few weak glimmerings of light discover to us Europe in a similar state of population, from the Don to the Pillars of Hercules; here and there traces of culture, industry, and commerce; for instance, the amber trade in the Baltic, at least in the time of Homer, and that of the British tin. All this is perceived in remote obscurity, where only a few points of light occasionally shoot across, to show us the germs of future history, which is still profoundly silent respecting the time and place of such events. Nothing is left for us but humbly to assume the garb of ignorance, to look round us in the great archives of nature, and see if there are any documents which may at least lead us to conjectures. Happily there are such.

"The present structure of the earth's surface teaches us, what Moses confirms, that it was formerly covered to a certain depth with water, which gradually lessened, from causes unknown to us, so that various spots became dry and habitable. The highest dry surface on the globe must, therefore, have been the earliest inhabited; and here nature, or rather her Creator, will have planted the first people,

whose multiplication and extension must have followed the continual gradual decrease of the water.

"We must fancy to ourselves this first tribe endowed with all human faculties, but not possessing all knowledge and experience, the subsequent acquisition of which is left to the natural operation of time and circumstances. As nature would not unnecessarily expose her first-born and unexperienced son to conflicts and dangers, the place of his early abode would be so selected, that all his wants could be easily satisfied, and every thing essential to the pleasure of his existence, readily procured. He would be placed, in short, in a garden, or paradise.

"Such a country is found in central Asia, between the 30th and 50th degrees of north latitude, and the 90th and 110th of east longitude (from Ferro); a spot which, in respect to its height, can only be compared to the lofty plain of Quito in South America. From this elevation, of which the great desert Cobi, or Shamo, is the vertical point, Asia sinks gradually towards all the four quarters. The great chains of mountains, running in various directions, arise from it, and contain the sources of the great rivers which traverse this division of the globe on all sides; the Selinga, the Ob, the Lena, the Irtisch, and the Jenisey, in the north; the Jaik, the Jihon, the Jemba, on the west; the Amur and the Hoang-ho (or Yellow River), towards the east; the Indus, Ganges, and Burrampooter, on the south. If the globe was ever covered with water, this great table-land must first have become dry, and have appeared like an island in the watery expanse. The cold and barren desert of Cobi would not, indeed, have been a suitable abode for the first people; but on its southern declivity we find Thibet, separated by high mountains from the rest of the world, and containing within its boundaries all varieties of air and climate. If the severest cold prevails on its snowy mountains and glaciers, a perpetual summer reigns in its valleys and well-watered plains. This is the native abode of rice, the vine, pulse, fruit, and all other vegetable productions, from which man draws his nourishment. Here, too, all the animals are found wild which man has tamed for his use, and carried with him over the whole earth;—the cow,*

* To determine the original stock of our domestic animals is one of the

horse, ass, sheep, goat, camel, pig, dog, cat, and even the serviceable rein-deer, his only attendant and friend in the icy deserts of the frozen polar regions. Close to Thibet, and just on the declivity of the great central elevation, we find the charming region of Cashmire, where great elevation converts the southern heat into perpetual spring, and where nature has exerted all her powers to produce plants, animals, and man, in the highest perfection. No spot on the whole earth unites so many advantages; in none could the human plant have succeeded so well without any care."* This spot, therefore, seems to unite all the characters of paradise, and to be the most appropriate situation in Asia for the birth-place of the human race.

W. LAWRENCE, ESQ., F.R.S.

The human species has numerous distinctive marks, by which under every circumstance of deficient or imperfect civilisation, and every variety of climate and race, it is separated by a broad and clearly defined interval from all other animals.†

PROFESSOR BLUMENBACH.

The peculiar characteristics of man appear to me so very strong, that I not only deem him a distinct species, but also put him into a separate order by himself. His physical and moral attributes place him at a much greater distance from all other orders of mammalia, than those are from each other respectively. *Order, Bimana; Genus, Homo; Species, Single,* with several varieties. *Characters,* erect stature, two hands, both approximated and of equal length; the inferior incisors perpendicular; prominent chin; *rational, endowed with speech;* unarmed, defenceless.‡

most difficult undertakings in zoology. I know no data on which the ox-kind can be referred to any wild species in Asia. Cuvier has concluded, from a minute osteological inquiry, that the wild ox (urus or bison of the ancients; aurochs of the Germans), formerly found throughout the greater part of temperate Europe, and still met with in the forests of Lithuania, of the Carpathian and Caucasian chains, is not, as most naturalists have supposed, the wild original of our cattle; but that the characters of the latter are found in certain fossil crania; whence he thinks it probable "that the primary race has been annihilated by civilisation, like that of the camel and dromedary."—*Des Animaux fossiles,* v. iv.; *Ruminans fossiles,* p. 51.

* Adelung; 1r. Theil. *Einleitung,* p. 3—9.

† Lectures on the Natural History of Man. (Bohn's edition.)

‡ De Generis Humani Varietate Nativa.

BUFFON.

Every circumstance concurs in proving that mankind are not composed of species essentially different from each other; on the contrary, there was originally but one species, which, after multiplying and spreading over the whole surface of the earth, has undergone various changes, by the influences of climate, food, mode of living, epidemic diseases, and the mixture of dissimilar individuals.*

JAMES COWLES PRICHARD, M.D. F.R.S.

It is well known that this able and learned physician devoted the leisure hours of a long and active professional life to a consideration of the varieties of the human race. He felt that the Sacred Scriptures, whose testimony is received by all men of unclouded minds with implicit and reverential assent, declare that it pleased the Almighty to create of one blood all the nations on the earth, and that all mankind are the offspring of common parents; and he then resolved to discover how far the conclusions of reason and of science were confirmatory, and what the data for arriving at the conclusion, that all the races and diversities of mankind are really derived from a single pair, placed on the earth for the peopling of its surface, both in times past, present, and to come, during those ages which it may please the Almighty to assign to the present order of existence here. This writer has not only considered the subject as *physiological*,—including all which relates to the physical conformation of man, his mental endowments, the question of the unity or plurality of species, and the laws which permit and limit the deviation from a common standard; but, *2ndly*, the *philological*, including all which belongs to human languages, their connexions, diversities, the theory of the changes they undergo, and the history of such actual changes; and, *lastly*, the historical—taking the term in its most extended sense, as including all written history, inscriptions, traditions, mythology, and even the more common usages which designate and distinguish the different races of man,—has been examined, the facts carefully collected, and conclusions based upon those facts set before us. We have reserved to near the conclusion of this synopsis the result of his

* Natural History, translated by Wood, vol. iii. p. 446.

inquiries, and the opinion which this great man expressed only a short time before his death deprived the profession of one of its brightest ornaments. He says, that the different races of men are not distinguished from each other by strongly marked, uniform and permanent distinctions, as are the several species belonging to any given tribe of animals; all the diversities which exist are variable, and pass into each other by insensible gradations; and there is, moreover, scarcely an instance in which the actual transition cannot be proved to have taken place. Thus, if we consider the varieties of the figure which are generally looked upon as the most important, and begin with those of the skeleton and the skull as their foundation, we shall find every particular type undergoing deviations and passing into other forms. We have seen that in many races, who have generally and originally, as far as we can go back towards their origin, heads of the pyramidal figure, with broad faces, or the Mongolian type, the oval or European shape with European features display themselves in individuals, and often become the characteristics of tribes. The shape of the head in the Black races varies in like manner. The Sudanian nations have a black complexion, with a form of the head different from that of the Negro; the type varies in particular tribes and even in the same tribe. Towards the south, the black and crisp-haired Africans display in the highland of the Kafirs a form resembling the European, and in the country of the nomadic Hottentots make a signal approximation to the physical character prevalent among the nomades of high Asia. Among the aboriginal races of the new world, similar varieties and similar deviations occur.

With respect to colour, it is still more easy to trace the greatest variations within the limits of one race; there is, perhaps, not one great family of nations, having its branches spread through different countries, which does not display, in this particular, the most strongly marked varieties. We have traced them in the instances of the Jews and Arabs, in the tribes of Hindoos, or rather of the Indian race spread through India, compared with those of the Himalayan countries. It has been said that the native tribes of America present an exception to the general observation deduced from a survey of the nations of the old world, and that the complexion of the American displays no relation to climate. We

have proved on the contrary, that tribes alike belonging to the American stock manifest the influences of external agencies not less distinctly than do the white inhabitants of Europe compared with the black races of Africa;* for example, compare the black Californians with the white Americans of the north-west coast. He also proves, to our mind most satisfactorily, (and we are writing after having devoted many hours to a patient and careful examination of the immense amount of facts collected by Dr. Prichard,) that the dark coloured tribes of Africa are not a distinct people, separated from all the other families of man, and uniform amongst themselves, such as we "ideally represent under the term Negro."

Nor can it be pretended that any intellectual superiority of one human race over another, which can be imagined to exist, furnishes any argument against the conclusion that all men are of the same species. If it be admitted that the Negroes are deficient in mental capacity, this would not prove them to belong to another family; for it would be no difficult matter in many towns and villages of this country to discover families intellectually inferior to the generality of Africans,† and it is a fact which cannot be controverted that there are and have been many Negroes whose mental faculties may be measured by the standard of European intellect; nor must it be forgotten that external influences, civilisation and social culture exert no trifling power in awakening and developing the faculties of the mind. If this psychological comparison be extended to others, even to the poor Bushmen, we have the authority of Mr. Burchell‡ for saying that the females, though nearly naked, displayed as much the signs of modesty as Europeans, "the girls were as delicate in feelings of modesty as if they had been educated in the most decorous manner." Of the men—destitute of flocks and herds, living on the wild roots of the wilderness, on reptiles, locusts, and the larvæ of ants, assimilated to the

* Pp. 473—475, 545. We give the *substance* of what Dr. Prichard has stated; want of space obliging us very much to abridge the original text.

† We might select thousands of the Caucasian race that are inferior to thousands of the more intelligent Africans; as the deficiency in the former would not prove that they were not Caucasians, so a lower grade of general intellect would not exclude the Negro from the species to which we belong.

‡ Travels in Africa, vol. i. p. 434.

wild beasts in their habits—the same writer adds, "I discovered among them traits of *kind* and *social feelings, and all the essential attributes of humanity;*" well, then, might Dr. Prichard conclude, that when—

"We find every where the same susceptibility, though not always in the same degree of forwardness or ripeness of improvement, of admitting of the cultivation of these universal endowments, of opening the eyes of the mind to the more clear and luminous views which Christianity unfolds, of becoming moulded to the institutions of religion and civilised life; in a word, the same inward and mental nature is to be recognised in all the races of men. When we compare this fact with the observations which have been heretofore fully established as to the specific instincts and separate physical endowments of all the distinct tribes of sentient beings in the universe, we are entitled to draw confidently the conclusion that *all human races are of one species and one family.*"—p. 545, vol. ii.

Résumé. We must now bring this part of the work to a close. In the following pages the reader will find that Dr. Pickering has sketched most clearly the peculiarities by which the various Races of Man are distinguished from each other. Our task has been to determine whether in the colour of the skin, the shape of the trunk and extremities, the conformation of the skull, the structure of the brain, &c., &c., &c., there exist such differences between any two families as to justify the conclusion that they are not of the same species. In doing so, we have *first* considered the skeleton of the African in relation to that of the Chimpanzee and Orang-Outang, and then endeavoured, after comparing the structure of those parts of the body in the Negro which are thought to differ most materially from the European, to show how all the Races of Man are separated from every other animal by a clear and not to be approached boundary.

We have next investigated the question of the unity of our species, and after giving the objections which have been urged against the probability of all men being of one family and one species, the proofs on which that opinion rests have been fully investigated. *First*, the subject has been studied as presented to our notice by the Mosaic account of the creation: *next*, it has been regarded as altogether a question for scientific research; and the large amount of facts relating to the Natural History of Man, which have been collected from a great variety of sources, will not only, we hope, be of

interest to the general reader, but also of use to the students of our public schools and universities, in conducting the inquiry,—whether all the races of man which are dispersed over the surface of the earth, and whose portraits, as sketched in the following pages by Dr. Pickering, will be found to exhibit the most remarkable contrasts in feature and in colour; and not only to differ in complexion and in physical conformation, but also in languages, manners, customs, modes of worship, &c., &c., &c.; have arisen from Adam and Eve, or are the offspring of several original and distinct parents?

It may, and probably will, be urged that this problem has long ago been so decidedly solved by the authority of the Bible, that no room is left for doubt or for discussion; but we think that it is impossible to devote the energies of the mind to a more noble undertaking than an investigation of the natural history of the races of man—a branch of that great tree of science which includes the history of all organised life, which carries us along the phases of creation, through all the numberless gradations of vegetable and animal existence, till we reach those wonderful instincts and still more exalted functions of reason and intelligence, of speech and of language, the possession of which, as already demonstrated, separates man by a wide chasm from the cattle of the field,—with a view of showing the harmony existing between the facts which are exhibited in the Book of Nature, and the record given of them in the Word of God.

We cannot lay down our pen without expressing an opinion as to the unity of our species; and, although the profession to which we belong instinctively directs the eye to look for physical anatomical identity,—to consider the shape of the head, the figure of the pelvis, and the colour of the skin,—to search for physiological identity amid the varied changes to which the human constitution is liable; and, looking at the varieties of the *genus homo*, to ask, how, when, and where these varieties arose, and what is known of the springing up of analogous varieties in the present day, and of which some instances have been given;* still

* The Reviewer of Dr. Prichard's work, in the "Quarterly," contends, that "from the fact of nature producing frequent varieties in all races, as striking as are the extreme diversities amongst men, and that there is an entire continuity in the gradations which occur in nature from one diversity to another,"

would we venture for one moment to direct attention to the psychical and moral bearings of the question, of more importance far than many of those on which so much labour, during many years, has been expended.

When we observe that all the races of man, civilised and savage, have the same powers of utterance,—that both speak naturally, and are equally understood; when we find all languages, dialects, and tongues reduced to a few families, and pointing, so far as human wisdom yet can trace, to one common origin; when we see in all men, whatever the climate they inhabit and the colour of their skin, a belief in a world beyond the grave; when even the poor Bushmen exhibit some glimmerings of family relations and habits, and some mingling of human sentiments; when we discover the use of fire, artificial clothing, instruments by which the labours necessary to procure food and raiment are facilitated —weapons of offence and defence—the club, the spear, the sickle, and the fishing-hook,—characteristic of mankind; when we see objects of worship, prayers to the gods, sacrifices to obtain real or imaginary blessings,—sacred festivities, pilgrimages,—the priests and priestesses upon whom the divine services of the Negroes depend, and who are supposed

—(thus, a striking example is afforded, in a Negress having an Albino offspring, without pigment cells, a fact which includes all those minor varieties of colour which are so familiar to us in the same community, and even in the same family; and continuous gradations of colour, from the Negro to the native of Northern Europe, are proved to exist,) "that the argument for the unity might be left as sufficient, even if it ended here," and derived no additional confirmation from the analogies presented by the inferior grades of animal life; and evidence has been given which proves the actual deviations of man from a common standard are less than those found in the animals which are rendered familiar to us by domestication.

1. The conclusion that all the Races of Man are of one species, may be drawn from the harmony of the general laws of the animal economy; for if, after a due allowance is made for the effects of climate, habits of life, &c., it should appear that in two races of animals the duration of life is the same, that their natural functions observe the same laws, that they are susceptible of the same diseases, there is a very strong presumption that they are of the same species. Now, the grand laws of the animal economy are the same in their operation upon all men, and the slight deviations which occur are not greater than the common varieties of constitution which exist within the limits of the same family.

2. From the existence in the same admitted species amongst the inferior tribes of animals of varieties analogous to those which occur in mankind.

3. From the circumstance of varieties being really known to have sprung up among men more or less similar to those which distinguish different nations.—*On the Animal Kingdom and Unity of our Species*, by J. C. Hall, M.D., p. 93.

to have confidential intercourse with the gods; when we find in the Negro's breast some belief in the immortality of the soul, and a state of retribution; when we hear the savage describing his abode beyond the grave as a fertile hunting-ground, and the Christian speaking of his paradise as a place, the joys of which eye hath not seen, nor the mind of man conceived; when everywhere are presented funeral rites for the dead,—burning, sepulchre, embalming mummies; when we behold mounds without number scattered over all the northern nations of the world, the only remaining records of races now extinct; when we examine the wonderfully constructed Pyramids of Egypt, the graves of the ancient Peruvians, the monuments of the Polynesians; when certain religious observances are considered,—it may be the worship of the Sun, or the petition of the savage to the Great Spirit, or the prayers, masses, and litanies offered for the dead and for the living, in the churches of Europe, the temples of Eastern climes, or the mysterious rites of Pagan altars; and when all these are regarded as phenomena in the history of the most refined and barbarous nations, and as springing from those common faculties and sensibilities, of feeling, passion, and of hope, which speak of close and unalterable resemblance, and attest the great natural relation of all men to each other, forming "a piece of Divinity within us,—something that was before the elements, and owing no homage to the sun;" and when lastly, in the joyful laughter, and in those bitter tears which are common alike to the civilised and cultivated citizen of London, and to the untutored savage of the desert, are furnished proofs of family identity, which convince the mind far more powerfully than all the subtilties of argument; for—

"One touch of nature makes the whole world kin;"

We are fully satisfied, that all the races of man are, as the Gospel clearly expresses it, "of one blood"—THAT THE BLACK MAN, RED MAN, AND THE WHITE MAN, ARE LINKS IN ONE GREAT CHAIN OF RELATIONSHIP, AND ALIKE CHILDREN WHICH HAVE DESCENDED FROM ONE COMMON PARENT.

JOHN CHARLES HALL, M.D.

SHEFFIELD,
July 9th, 1850.

PHYSICAL HISTORY OF MAN.

CHAPTER I.

ENUMERATION OF THE RACES.

THREE races of men are familiarly known in the United States, and are admitted by general consent. The same three physical races have been considered by eminent naturalists (who, however, have not travelled) to comprise all the varieties of the human family. Blumenbach has indicated a fourth race, the Malay; and even a fifth has been shadowed forth in the accounts of the Australian Seas. It was impossible, however, from the materials furnished by books, to define the geographical boundaries of these races; a point which seemed of importance, as forming in a good degree the basis of our reasoning on the whole subject.

This then was one of the objects of investigation I proposed to myself on joining the Exploring Expedition; and my previous experience as a naturalist, a pursuit calling for the constant exercise of the powers of discrimination, gave me some advantages in conducting the inquiry.

At one time during the voyage, I thought my task nearly accomplished; and, after visiting Australia and New Zealand, I actually penned an opinion, that the races of men were five in number. Soon, however, I was compelled to admit three more: neither was this the limit of the productiveness of nature, in new and undreamt of combinations of feature.

More careful observation than at the outset had seemed necessary was now called into requisition; and often, for a time, I experienced perplexity. One difficulty arose, in fixing

in the mind, while passing from place to place, the relative shades of complexion. Fortunately for my purpose, tattooing was practised in many of the countries visited, and these markings afforded a convenient test of the depth of hue. Individuals, also, of three or more races being present among the crews of our vessels, afforded the means of making some direct comparisons. In the end all difficulties vanished, and I was enabled to arrive at satisfactory conclusions.

It should be observed, that in the countries visited by the Expedition, the inhabitants present among themselves great uniformity of feature and complexion: while in the Arab countries and in Western Hindostan, there is an astonishing diversity of aspect in the population; independently, to all appearance, of the great mixture of races. The mountain region of Abyssinia is said likewise to present a seemingly heterogeneous population; but in all the countries which I have myself visited, the varieties of feature have appeared susceptible of reduction to the arrangement adopted in the present work.

I have seen in all ELEVEN RACES OF MEN; and though I am hardly prepared to fix a positive limit to their number, I confess, after having visited so many different parts of the globe, that I am at a loss where to look for others. They may be enumerated conveniently enough in the order of complexion; and beginning with the lightest, I will add some of the more obvious distinctive characters.

a. *White.*

1. ARABIAN. The nose prominent, the lips thin, the beard abundant, and the hair straight or flowing.

2. ABYSSINIAN. The complexion hardly becoming florid; the nose prominent, and the hair crisped.

b. *Brown.*

3. MONGOLIAN. Beardless, with the hair perfectly straight and very long.

4. HOTTENTOT. Negro features, and close woolly hair; and the stature diminutive.

5. MALAY. Features not prominent in the profile; the complexion darker than in the preceding races, and the hair straight or flowing.

the assistance of Mr. Dana; and they deserve attention as having an important bearing, to be hereafter noticed, on human migrations.

The phases of climate, varying especially in the proportions of moisture, partition out the soil and its vegetable growth into three well-marked divisions. 1. There are countries which are almost entirely devoid of vegetation. 2. Other extensive regions are more or less covered with herbage, or produce scattered bushes and stunted woody plants, but are destitute of proper forests. 3. A third description of territory is, in its natural state, clothed with continuous woods. This state of things is likewise represented on the map, not merely from its connexion with geographical botany, but as a point eminently illustrative of the history and present condition of the human family.

Art indeed cuts down the forest, and encroaches slightly on the barren territory; but yet the above three natural divisions will very nearly correspond with *desert*, *pastoral*, and *agricultural* countries. It is a mistake to suppose, with many, that pastoral or nomadic life is a stage in the progressive improvement of society. The condition is inscribed upon the face of nature; and widely-extended regions minister to the wants of man, where nevertheless cultivation is impossible.

Take, for instance, the vast interior of the Eastern continent. We have, in the first place, a great desert tract extending through Northern Africa, Arabia, and Western India; the domain of the Barabra, Tuarick, and Arab. The presence of man in this terrestrial void is often solely dependent on the milk of the camel. Next follows on the north and east, a pastoral region of still greater extent; where the face of nature is somewhat softened, so that the horse and bullock can obtain sustenance; and hence the development of the Tartar or Scythian tribes. Continue the survey on the map towards the borders of the continent, and there will not, I apprehend, be any difficulty in distinguishing the principal seats of population and national power.

In proceeding to the consideration of separate races, I shall adopt an arrangement partly geographical, and shall refer to these several heads, such miscellaneous observations as have appeared worthy of preservation.

CHAPTER III.

THE MONGOLIAN RACE.

I HAVE thought to distinguish in the Mongolian race physical traits and a style of feature, at variance in some respects with those of the remaining series of races.

One of these peculiarities consists in the occurrence of a feminine aspect in both sexes. In the absence of any striking difference in stature or dress, I have often seen the stranger at a loss to distinguish men from women; a difficulty not depending altogether on the absence of a beard, and which, so far as my observation extends, does not take place in the other races.

The well-characterised Mongolian head is less compressed at the sides than is the head in the other races, so that when viewed in front, it presents a more rounded contour. The forehead recedes; but in continuation of a general curve from the chin upwards; and it frequently happens that the nose is likewise arched. The latter withal is less prominent than in the White race, and the lips are somewhat thicker.

The complexion is always sufficiently light to show a flush, and in the far North, it sometimes becomes decidedly florid. This is said to be the case with the coast-tribes of Northwest America; and indeed I have seen among them two females, in all probability of unmixed race, who from their fair complexion might very well have passed for Europeans.

The Mongolian is pre-eminently a beardless race, the chin often remaining perfectly smooth, even to extreme age. In the instances where a thin beard does make its appearance, I have never seen it attain a greater length than two or three inches, and it was always perfectly straight. The hair also has appeared to me more uniformly straight, and to have a tendency to grow longer than in the other races;

when left to itself, I think it will, not unfrequently, reach the ground.

As to the "oblique eye," so generally spoken of as characteristic of the Chinese, I have found it among them in some instances, and also among the Chinooks of Northwest America; but I have not been able to make much use of it as a distinctive character. I have moreover seen individuals of the Malay race having their eyes small and as if half-closed, and I am induced to think some confusion may have arisen from this source. I was not more successful with the alleged "absence of a projecting inner angle to the lids," which has likewise been spoken of as a Chinese peculiarity. Some writers have found a want of clearness in the sclerotica, or "white of the eye," of the aboriginal American; a point I have not examined, but which seems to deserve attention.

For characteristic figures of Mongolians, I would particularly refer to West's paintings of aboriginal Americans; so far, at least, as I can judge from copies.

The Arctic Regions seem exclusively possessed by the Mongolian race; which besides is diffused through a greater variety of climates than any other, and over a far larger area. This comprises about one half of Asia, and with a slight exception all aboriginal America, or more than two-fifths of the land-surface of the globe. Notwithstanding the recent encroachments, the greater portion of the American continent is still inhabited by Mongolian tribes; and while some of them wander towards the North, further than civilised man has hitherto been able to follow, others are still the nearest dwellers to the Southern Pole.

BRAZIL.

In conforming, wherever it is practicable, to the order of the Voyage, Brazil is the first place that claims attention. During a stay of six weeks at Rio Janeiro, including journeys to and beyond the Organ Mountains, I did not meet with the least traces of aboriginals; neither, on inquiry, could I hear of the presence of an individual in the city. Some, it was said, were living at the distance of two or three days' journey, who might have been visited, had other objects been abandoned.

PATAGONIA.

I was again unsuccessful in meeting with aboriginals during our short and interrupted visit to the RIO NEGRO, in North Patagonia; but I learned that some civilised natives were residing at the Spanish village, about twenty miles from the mouth of the river.

Incursions are sometimes made by distant tribes, for the purpose of stealing horses; and one of the pilots had been in a conflict with a party of these marauders. He represented them as being "all horsemen, armed only with a long pike. They used the war-cry of 'cha cha,' and they charge in a body at a chosen point, too impetuously to be resisted; but having broken through the opposing line, they continue their course without giving further trouble."

Mr. Coan, of the Hawaiian mission, once spent some months in SOUTHERN PATAGONIA, with the tribe bordering on the Straits of Magellan, (the same repeatedly mentioned in the Voyage of the Beagle,) and I am indebted to him for the following particulars. "The Patagonian tribes do not appear to have bloody wars; but he once witnessed a severe fight between two individuals, unarmed. The stature of these people is nothing unusual, but it is exaggerated by their peculiar mode of dress. They are all horsemen, but having no canoes, they cannot pass the Straits: the Fuegians do this sometimes, when they are seized and reduced to slavery. The Araucanians never cross the Andes into this country, neither do the Patagonians visit theirs. A native, who was acquainted with the whole of Patagonia, and who had acquired some Spanish words at the settlements on Rio Negro, informed Mr. Coan that he once made the attempt; and that he reached a place beyond which his horse could not proceed from the want of feed, and further on there was only snow."

THE ANTARCTIC OR MAGELLANIC WATERMEN.

The great chain of the Andes, considered as continuous throughout all America, terminates with singular symmetry, North and South, in a high broken border-archipelago; presenting a labyrinth of sounds and channels that affords room for the development of a maritime population.

The Southern Watermen, or the Fuegians, are far less advanced in the art of navigation than their Northern brethren. Their canoes are smaller, and inferior in construction. They are not known to venture forth into the open sea; and even the Falkland Islands, although so near the coast, appear to have remained unvisited by them. Something, indeed, should be allowed for the more tempestuous character of the surrounding Southern Ocean.

In February, 1839, the Vincennes came to anchor in Orange Harbour; and on the day of our arrival, a small canoe made its appearance, coming from the direction of the islet of Cape Horn, which was nearly in sight. I was on shore at the time; and before I could reach the ship's side, the canoe departed, without giving me a distinct view of the occupants. During the nine following days, that elapsed before the sailing of the Relief, no other natives made their appearance; and notwithstanding I landed at different points almost every day, and extended my walks as far as six miles inland, the whole country appeared to be a solitude.

Sometimes, however, in following the coast, I would come upon a deserted hut; scarcely distinguishable in the midst of the rank growth of herbaceous plants, and always situated immediately in the rear of the beach. In shape it was hemispherical, having the apex unfinished for the passage of smoke; and it seemed to be the work of but a few hours with the unassisted hands. A heap of mussels and limpets uniformly encumbered the entrance, and indicated the chief support of the proprietors. A footpath was in general traceable, not leading inland, but only to the water's edge; and in a single instance a *weed* remained behind, a Nettle, that had been unintentionally transported from its native soil. Such was the only change man had here wrought upon the face of nature.

By what means the Fuegians procure fire, so precious in this chilly and humid climate, I am uninformed; but the process would seem to be difficult, since they are careful always to take a supply in their canoes. At first it appeared a surprising circumstance, that living where snow is not unfrequent, and so near the Antarctic circle, these people should be entirely destitute of clothing! And no fact so

plainly disclosed the absence of the severe winters of the North. Indeed we afterwards found, that in the Southern hemisphere, vegetation is nowhere checked by a season of cold; but that in many respects a tropical climate may be said to extend to the Antarctic snows.

After the sailing of the Relief, the natives made their appearance more frequently; and from oral descriptions, and the drawings of the artists, I was enabled to satisfy myself of the physical identity with our Northern aboriginals. I was, however, particularly struck with the following testimony, obtained after spending two years among the tribes of the Pacific and Southern Oceans; when, having again directed our course to America, we arrived in the Straits of De Fuca. On here viewing the Chinooks, a highly intelligent and observing officer remarked in my hearing, "that he could not discover much difference between them and the Fuegians; they appeared to him essentially the same sort of people."

Among the few articles manufactured by the Fuegians of Orange Harbour, we observed that the *strings* are exclusively of animal fibre, and that the weapons consist only of *slings* and *spears;* the latter used apparently not for the purposes of war, but for procuring fish, and perhaps seals. The spear-heads are formed of the solid bone of some marine animal; and in shape and mode of attachment, they present an obvious analogy to the bone-pointed arrows and salmon-spears of Northwest America. A further unexpected analogy is perceived in the shape of the *paddles;* the Fuegians making the blade even narrower than do the Northwestern tribes.

The Relief, previous to my going on board, had touched at Good-success Bay, at the eastern extremity of Terra del Fuego. And the "superior stature and condition" of the natives seen at that place, induced eye-witnesses to suppose, that they belonged to a different class from the people frequenting Orange Harbour. Indeed the possession of bows and arrows, and the wearing of the skins of land quadrupeds, indicate a hunting tribe; or, at least, one not altogether depending on the products of the sea. They were perhaps a specimen of the tribes which frequent the unknown Interior of the main island of Terra del Fuego.

The *bows* obtained at Good-success Bay are simply of wood, without the addition of sinew. The arrows are pointed with flint-stone, and are of the usual American pattern; but they are feathered only on two sides, and the shaft is more highly finished and more beautiful than I have seen it in the North. A hank of yarn, made apparently of the *wool* of the guanaco, was worn by the natives on the head; but the manufacture of *leather* does not appear to have reached these Southern tribes.

The presence of the *dog* among the tribes inhabiting this extreme point of America, is another fact that deserves attention.

CHILI.

The White race is evidently far in the ascendancy in Northern Chili; and I looked for some time among the population of Valparaiso and Santiago, before I could distinguish traces of the aboriginal stock. It was novel and interesting to perceive one physical race thus quietly giving place to another, without outrage or oppression.

Mixed blood cannot, however, be called rare in Northern Chili; and, at the foot of the Andes, I found whole families that appeared to be purely aboriginal; though in their houses, customs, and mode of living, they did not differ from the other inhabitants of the country. It afterwards became evident, that the semi-civilisation of ancient Peru had aboriginally extended its influence over Northern Chili.

PERU.

In Peru, on the other hand, I found a preponderance of aboriginal blood, especially at a distance from Lima, and on approaching the Andes; yet neither singly nor collectively did the original stock appear to have much political weight, or to have taken any very prominent part in the recent history of the country. Certain peculiar customs have indeed universally prevailed; but, otherwise, no obvious trace remains of the institutions of the Incas, even in the districts where their language continues to be spoken.

By an exception to the usual tendency of European civilisation, there are grounds for questioning whether Peru has altogether gained by the change. Personal security certainly

does not appear to have been promoted; and, notwithstanding the introduction of new useful animals and plants, agriculture seems to have been fully as flourishing under the rule of the Incas.

In company with others I made an excursion to the crest of the Andes, where we experienced heavy frosts and frequent snows, which, moreover, perpetually invested the projecting peaks. The moist and chilly climate reminded us of Terra del Fuego; and, as in that region, wild geese were feeding on the close-set herbage. During the three nights we passed at Casa Cancha, most of our party suffered from the "puna;" an affection accompanied with headache, fever, and vomiting, in some respects analogous to sea-sickness, as it is apt to accompany a first introduction to these heights.

While ascending on foot to the mine of Alpamarca, we remarked the frequent necessity of resting, for the sake of taking breath. The cause did not seem difficult of explanation; for, at the elevation of fifteen thousand feet, the atmosphere had lost one half of its density, so that we were obliged to double the number of our inspirations, to procure our accustomed supply of air. The English superintendent stated, that "a residence of years does not relieve this shortness of breath, and inability of long-continued muscular exertion, and that the aboriginals born on the spot suffer equally with strangers." I have, however, been assured by Mr. Quimby, who has travelled much among the Andes, that a "perceptible tendency to enlargement of the chest has been remarked among the people of the mining districts."

Coca (which consists of the leaves of the Erythroxylon mixed with lime) formed the resource and consolation of the miners of Alpamarca; and its use, in preference to tobacco, had extended to European residents. I was here first struck with the superior powers of endurance of the aboriginal American; an important item, as it has appeared to me, in the profitable working of the South American mines. I did not learn the precise footing on which the aboriginals are employed in Peru, but I was assured that "they are very rarely slaves."

I visited also several abandoned Inca villages in the

vicinity of Lima; together with PACHICAMAC, which appears to have been the aboriginal capital of the district. The cemetery at this place deserves attention, as the climate is favourable to the preservation of relics; and as it does not seem probable that bodies have been placed here subsequently to the Spanish conquest, or the conversion. I remarked among the articles exhumed a small roundish *gourd-shell*, having a square opening, precisely as it is now seen in the Lima market; also a short-eared black variety of *maize*, which is still common, and another variety having the grains slightly pointed; the *Pachya bean*, and a free-seeded variety of the *cotton-plant;* fragments of *woven cloth*, all of cotton, but of various degrees of fineness, and even of different colours, among which *blue* was distinguishable; *fish-nets*, also of cotton, and made after the usual method, which is common alike to Europeans, Polynesians, and Feejeeans; and a neatly-made *sling*, which was the only semblance of an implement of war, though probably not so intended: slings, it has already been observed, are used by the Fuegians, but not, that I am aware of, by our North American tribes.

Stone hatchets, very similar to those found in the United States, occur among the antiquities of Peru, a circumstance unexpected in a people acquainted with the use of metals, though we may note the possibility of their belonging to the anterior period of Peruvian history.

A head-dress, stated to have belonged to "Atahualpa, the last of the Incas," has recently been sent to Washington; and it is here mentioned on account of the analogy, in the style of ornament, to the bands of Dentalium shells of Northwest America.

The knowledge of *metals*, in aboriginal America, appears to have been almost exclusively confined to Peru and Mexico, with the intervening countries. The value especially attached to the "precious metals" by the natives of these countries is a suspicious circumstance, which even tends to invalidate the supposition of any independent development of civilisation. It should be observed that the knowledge of metals has certainly not been derived through the islands of the Pacific, for they scarcely afford traces of ores, and even metallic implements do not appear to have

been aboriginally conveyed beyond the western extreme of New Guinea. Extending now these limits, so as to include Australia, and I think we have nearly defined the portion of the globe whose inhabitants were found by Europeans to be destitute of metals.

I do not know whether *precious stones* were anywhere prized in aboriginal America, but they are among the articles which travelled furthest during the early period of commercial intercourse; and, by tracing them to their several localities, additional light may hereafter be thrown on certain portions of history.

THE NORTHWESTERN OR ALEUTIAN WATERMEN.

In 1841, as the Vincennes approached the entrance of the Straits of De Fuca, a good deal of interest was excited by the appearance of a canoe. As it drew near, a report spread "that there were White men on board;" and indeed, after having been for two years accustomed to the personal appearance of the Polynesians, we all noticed the superior lightness of complexion, together with the greater length of hair. The novelty of hats next engaged attention; and perhaps it was their conical shape, combined with the short stout person, and the general style of dress, that brought to mind representations of Siberian tribes. The fashion, however, of the conical hat, extends further than the opposite coast of Asia; and we subsequently had occasion to notice it in various parts of the East Indies.

After the soft languages and rapid enunciation of the islanders, the Chinooks presented a singular contrast in the slow, deliberate manner in which they seemed to choke out their words; giving utterance to sounds, some of which could scarcely be represented by combinations of known letters. Their deportment was hardly less unlike; especially in the absence of a *salutation*, and of all signs of approbation at anything they saw. As we proceeded up the Straits, canoes frequently came round, bringing, as subsequently, an abundant supply of fish. Sometimes the occupants seemed to be attracted by curiosity; but they were always eager to traffic away the various articles in their possession, although to our eyes the result seemed increased impoverishment.

The Vincennes anchored in Discovery Harbour; and shortly afterwards I went on shore. Unlike the state of things in Terra del Fuego, paths were seen leading in various directions; and I shall not soon forget the rush of sensations, on my first interview in the forest with the aboriginal proprietor. On returning to the strand, I observed that a party bringing rails and mats in their canoes had established a temporary encampment. Indeed the whole details of aboriginal life contributed to render this day memorable. Scarcely two centuries ago, our New England shores presented only scenes like that before me; and what was to be the result of the lapse of the third?

As the Vincennes proceeded to the head of Navigation Bay, I landed at various points, and had other interviews with these maritime people. One thing about them was very striking; the air of quietness that attached to their residences and all their movements. They appeared to live, as it were, on a good understanding with the birds and beasts, or as if forming part and parcel of the surrounding animal creation; a point in correspondence with an idea previously entertained, that the Mongolian has peculiar qualifications for reclaiming, or reducing animals to the domestic state.

The want of personal cleanliness, usual with the North American tribes, was sufficiently obvious. It is true, the lighter complexion shows dirt more conspicuously than does that of the Polynesian; and in a chilly climate, it is not strange that sea-bathing should be avoided. Veindovi, our Feejee captive, after getting over his astonishment at the sight of so much land, imbibed a profound contempt for the Chinooks; though on one occasion he condescended to initiate some of them into the art of using vermilion.

On our return to the vicinity of Discovery Harbour, I was fortunate enough to fall in with one of the permanent stockaded villages. It was built in a concealed situation, on the bank of a small stream of fresh water, that afforded access by canoe; and it was not far from the anchorage at Dungeness. It appeared to be the proper home of all the natives we had seen within many miles; amounting, perhaps, to as many as three hundred persons.

In one of the houses I witnessed the remarkable treat-

ment to which the Chinook infants are subjected; being confined to a wooden receptacle, with a pad tightly bandaged over the forehead and eyes, so that it is alike impossible for them to see or to move: and I further remarked that when the child is suspended according to usage, its head is actually in a lower position than the feet.

Some of the men had their faces blackened, and I thought at first they were not pleased with my visit. However, I was conducted freely about the village; and afterwards to an enclosure, of about a quarter of an acre, planted with potatoes, in which they seemed to take a deal of pride. The art of cultivation was recent in this quarter; it having been communicated, not without some pains on the part of the Hudson Bay Company, through Catholic missionaries.

On returning towards the ship, I observed a skull lying on the beach; a circumstance that surprised me, as I was aware that these tribes take much pains in the disposal of their dead. On pointing it out to my attendant native, he looked sorrowful, and made some gestures which I thought referred to the common lot of mortality. He also showed me the marks of a wound, received by him, as well as I could make out, in an engagement with a Northern tribe.

The Vincennes touched at CLASSET, just within the entrance of the Straits, and where the capture of whales is chiefly carried on. The natives here were more numerous, more insolent, and had acquired a greater number of English words than those living further up the Straits. Several had a ring through the septum of the nose; others had trinkets in the ears; and others, again, had the face fancifully marked with lines of soot, somewhat after the pattern of New Zealand tattooing. Arrows were kept in flat wooden boxes, with the lid set in; and I observed also the double-pointed arrow for shooting fish. Mantles were procured here, made of vegetable fibre, perhaps bark; similar, but of inferior workmanship, to those of New Zealand. A jealousy was found to exist at Classet between the two principal men of the tribe, and one spoke of the other as a "small-Indian."

All the natives inhabiting the southern shore of the Straits, and the deeply indented territory as far and including the tide-waters of the Columbia, may be comprehended

under the general term of Chinooks; though various minor subdivisions are recognised. They were found to hold some aboriginal commerce with the inland tribes; and they appear to have enemies only in the North, in the "Yookulty" or Nootka people. I did not myself see the Chinooks of the Lower Columbia; but the only particular difference I have found in the accounts of them, consists in the substitution of the water-proof basket (derived apparently with other arts and customs from California) for the square wooden bucket of the Straits.

The Chinook canoes were distinguishable, in the distance, from the Polynesian, by the oblique position in which the paddle is held; the end moreover, in making a sweep, being elevated above the plain of the horizon. On two occasions we were surprised by the approach of a canoe larger than usual, some of the men standing and flourishing their paddles, and all singing in chorus, in a loud clear voice: these canoes were found to contain principal men or chiefs. Sails were very rarely seen; and one of matting, which we procured, has been pronounced to be of the "Russian pattern:" so that there is room for doubt, whether the use of sails is aboriginal in this part of America. The Chinook canoes are of wood and from a single trunk, and their construction has been much admired. By what means they are excavated, or the split boards for the houses procured, we did not ascerrain. We saw no *stone hatchets* in Oregon.

The Chinook household *mats*, like the Californian, are made of rushes (Scirpus lacustris), placed side by side, and strung at intervals, somewhat after the pattern of Canton matting. The Chinooks have "*wampum*" of the usual description; but strings and bands of *Dentalium* shells, of somewhat similar model, seem principally to subserve the purposes of money. They have the same art of preparing soft *leather* as our Eastern tribes, but being much exposed to wet they use it for clothing more sparingly. They likewise weave *blankets* and belts, principally from the wool of the Mountain Goat (Capra Americana, an animal said to be abundant to the northward); and I thought I could perceive in the tissue, some correspondence with the Peruvian cloth. These blankets are diversified with angular

figures of aboriginal pattern; and on examination, it appeared, that the red, green, yellow, and blue yarn had been procured from traders; while the black yarn seemed to be the hair of their shaggy dogs, a material otherwise reported to be used for this purpose. The latter circumstance, together with the use of the dog as a beast of burden in the far North, is possibly connected with the aboriginal introduction of the animal into the American continent.

The Chinooks appear to be unacquainted with the art of dyeing, but they have some aboriginal *paints;* such as the black and the dull-red colours, used in ornamenting their hats, canoes, masks, and other implements. The other colours we observed, may have been obtained from traders.

Sufficient has already been stated of the Chinooks, to show their greater advancement in the arts, over the hunting tribes of North America; but some of their ingenious devices for procuring fish and game may be here noticed. We observed tall masts set up in particular situations, "to intercept, by means of connecting nets, the flight of waterfowl at night." A sort of fish-rake was successfully employed; but we saw nothing of fish-nets or seines, and indeed the sudden deepening of the water is unfavourable to their use. A peculiar mode of "spearing" or rather of noosing sturgeon, at surprising depths, was repeatedly spoken of; together with a method of capturing the whale, an exploit never dreamed of by the islanders of the Pacific, who are otherwise by no means deficient in enterprise.

Specimens of ornamental carving in clay-stone, executed by the Chinooks, have become common in museums. Those now obtained, represent little else than the novel objects introduced through European intercourse; and the original patterns appear to have been abandoned. Specimens of anterior date are therefore more interesting, and they usually consist of figures of grotesque imaginary quadrupeds, strangely grouped together; to which it has been supposed "that some meaning, now lost, was formerly attached." Some stone saucers, obtained by the Expedition, although not free from the suspicion of borrowed ideas, serve to

remind us that genius is not the exclusive offspring of civilisation.

Chinook skulls are well known in museums, from the remarkable peculiarity of being artificially flattened. This is accomplished during infancy by the strange treatment already noticed. Children, in consequence, sometimes presented a very remarkable appearance;* but as they grow up, the cranium tends to resume its natural shape, so that the majority of grown persons hardly manifest the existence of the practice. One effect, however, seemed to be permanently distinguishable, in the unusual breadth of face.

The personal appearance of the Chinooks differs so much from that of the aboriginal tribes of the United States, that it was difficult at first to recognise the affinity. Taking them collectively, they are even inferior in stature to the tribes of Interior Oregon; the general form is shorter and more squat, and the face is rounder and broader when viewed in front. Instances occurred of a fairness of complexion, which I have not seen in other parts of aboriginal America; and in young children, the colour was often not strikingly deeper than among Europeans. The oblique eye I have scarcely noticed in other parts of America; nor such frequent difficulty in distinguishing men from women, whether in youth or age. The arched nose was, however, very prevalent among the Chinooks. The beard was not always absolutely wanting, but it occasionally attained the length of an inch or more. One man had both beard and whiskers quite thin, but full two inches long; and in other respects he much resembled some representations I have seen of the Esquimaux. The portraits in the fourth and fifth volumes of the Narrative (the Tatouche chief, Ramsey, and George), give a very good idea of the usual appearance of the Chinooks.

Slavery exists among the Chinooks, though, from all accounts, in a somewhat milder form than among their Northern neighbours. It was reported, whether on sufficient authority I was unable to ascertain, "that the descendants of slaves obtain freedom at the expiration of three centuries, and that they have the means of keeping

* See the portrait in the Narrative of the Expedition, vol. iv. p. 388.

the reckoning; and further, that slaves may in general be distinguished by the head not being flattened, though they are careful to perform this process on their children." The practice of slavery is possibly connected with the first peopling of the American continent; and we are at the precise geographical position which may be regarded in many respects as the natural point of influx; but on this subject Mr. Hale's ethnographical map, considered in reference to the existence of a pass over the Snowy Range of mountains, affords further elucidation.

A surveying party having been despatched across the Straits, some canoes of the YOOKULTY made their appearance, a circumstance said to have produced a lively sensation among the accompanying Chinooks; but the operations of the survey were interrupted, without the opportunity of an interview. Some Nootka masks were procured through a different source; and they are ornamented with pieces of the Halyotis shell, which is likewise a favourite article with the coast tribes of California.

Such is the superior mildness of the winter in this region, that the H. B. Company's steamboat runs through the inland channels as far as latitude 58° N., throughout the year. Some marvellous accounts were related to us of the more NORTHERN TRIBES; of "their unwillingness to admit any superiority in the White man; and of their attempts to discover the motive power in the steamboat, after constructing various devices in imitation." Eye-witnesses agreed in their superior lightness of complexion over the Chinooks; and a tribe was spoken of, who apply "pressure to the cranium in such a manner that the top is elevated." That mechanical skill and refinement increase on advancing North, is evident from the manufacture of another description of leather, from the richly embroidered cloaks, from the paintings, and from the canoes, which will be spoken of hereafter.

With respect to the future prospects of these maritime tribes, the greater density of a spirited population, and the scanty proportion of agricultural territory, seemed to promise a different fate from that which has hitherto befallen their continental brethren. They can only give place to a maritime people, like themselves. It is certain that the

Chinooks are not altogether unaware of the threatening storm, and on one occasion they gave us to understand that "we had no business there; the land belonged to them." In docility the tribes of North-west America are not to be compared with the Polynesians; and they are regarded by traders as the "most dangerous people in the Pacific, after the Feejeeans."

INTERIOR OREGON.

Preparations for a journey into the Interior having been completed, our party, under the charge of Lieutenant Johnson, left the head of Puget Sound, on the 20th of May, 1841. The natives selected to accompany us, chiefly belonged to the NISQUALLY tribe, a portion of which was encamped in the neighbourhood of the fort; and we obtained the assistance of two Canadian interpreters.

Even among the Chinooks I had observed individuals who were not readily distinguishable from the aboriginals of the United States; but now such instances occurred more frequently, and I remarked taller forms, and, independent of the absence of artificial pressure, a more "hard-featured" countenance. Indeed, I could not make out any physical difference from our Eastern tribes, except in the inferiority of stature, everywhere observable in Oregon.

The country near the coast was interspersed with flowery prairies, and afforded some game, chiefly deer; but as we approached the mountains, the woods became continuous. In all this distance we saw no villages, and but three or four habitations; and these, with one exception, appeared to be deserted. Three or four individuals were fallen in with on the way, and they were persuaded to join our party. After some days, our natives became as jovial among themselves as so many Polynesians, and I once heard one of them humming a low plaintive tune. They combed their hair with a pronged stick somewhat resembling a clothes-pin. The Canadians on all occasions termed them "savages;" and they had adopted the epithet, unsuspicious of the implied opprobrium.

The path we followed had been but once previously traversed by civilised man. It leads over the crest of the Snowy Range, which at a point about twenty miles north of

Mount Rainier, seems practicable for horses during four or five months of the year; and indeed the chief obstacle arises from young spruces, that prevent the snow from settling around them in a solid mass. The passage was accomplished by transferring the luggage from the horses to the natives, an extra number having been engaged for this purpose. It did not appear to have been remarked at the time, that there were slaves in the party; and I afterwards had some reason to suspect that one man had been overloaded. However, they got through wonderfully well, and were admitted by general consent to have surpassed the Polynesians. The mode of carrying burdens was the same so general in America, by means of a strap around the forehead.

Most of the horses eventually got through in safety. But in the mean time Lachemere, a native, was sent forwards to find a chief, who resided at some distance below; and from whom we proposed to purchase additional horses. Lachemere, although, according to his own account, in part Wallawalla, considered himself as belonging to the Nisqually tribe. He bore a high character among the residents; and he accompanied us through the whole of our journey; and proved, with Pierre Charles, the Canadian, the main reliance of our party.

We now proceeded along the bank of the SPIPEN, and after two days fell in with the chief we were in search of, who awaited our approach. He was seated under a tree, in a pleasant spot of open ground, where some horses were grazing; and he received us with all the state and dignity attributed to the former "sachems" of New England. His features were of the aboriginal type strongly pronounced, and in fact were not unlike the portraits of Red-jacket, the Iroquois chief. He inquired, "who was the greatest man," our leader or the principal of the Hudson Bay Company: and he said, that "his heart was good, and that his people did not kill anybody." On mentioning a theft committed by one of our natives then present, he at first assumed a severe look, but afterwards said, "that as he belonged to another tribe, he could do nothing with him." He traced on the sand a map of the country through which we were to pass; and he gave us news from Wallawalla, of the death of

the superintendent of the fort. The interpreter added, that the chief's "people lived altogether in one town; and that he was formerly a very wicked man, though now a great friend to the Whites, having been converted by the missionaries."

Having procured two or three additional horses, we left the Spipen; and turning northward, proceeded over a high rolling country, arid and barren, and for the most part destitute of trees. On the first elevated ground we fell in with an encampment of about fifty natives, chiefly women and children, engaged in procuring and drying biscuit-root; which was found to be a tolerable substitute for bread.

On the following day, we looked down into a broad valley, which proved to be that of the UPPER YAKIMA. In descending, we were met by some men on horseback, and we here experienced the inconvenience of a multiplicity of languages. A native had joined us on the Spipen; but although living so near, he was able to communicate with these persons only through a third language, known to one of the opposite party. This was then translated to Lachemere, and by him, through the traders' jargon, to the Canadians; and as the latter spoke only Canadian French, the substance finally reached the English through the medium of five interpreters! Our new friends conducted us to a considerable encampment on the river-bank, where we procured an acceptable supply of salmon. The pride of the village was an aboriginal belle, and we were permitted a sight of herself and finery: her dress was of buckskin, and entirely resembled the Oregon female dress figured in the fourth volume of the Narrative. There were no canoes; and, as the stream was much swollen, recourse was had to our portable balsas: and, in the midst of our operations, an ingenious attempt at theft failed of success. At this place we first met with water-tight baskets.

We had been led to anticipate "oppressive heat in the interior plains," but on the following morning, June 3rd, we were surprised with a fall of pellets of snow. Leaving the low grounds, the latter half of this day was taken up in the gradual ascent of the broad opposing ridge, on the summit of which we encamped; the barometer, unexpectedly indicating a greater elevation than we had hitherto reached.

On the morning of the 4th, we soon reached the eastern declivity, and obtained a distant view of the Columbia River, or rather of its position; for we could only see an enormous trench, winding through the lower country. Indeed, the Columbia and its main branches are everywhere sunk from one to two thousand feet below the general level of the country, so that Interior Oregon is in reality a table-land.

Continuing the descent, we arrived in the afternoon at the margin of the river, a little below the mouth of the PISCOUS. The junction of this large stream had given rise to an unusual circumstance, a spot of ground that admitted of cultivation. A portion of it was planted with potatoes; but we hunted grouse for some time around the place before remarking the cabins of the proprietors.

For two days we proceeded along the western bank of the Columbia; having been delayed in the first place by the Piscous, waiting for a canoe; and some twenty miles above, another stream required the same convenience. A little beyond, some natives were established, then engaged in taking salmon; and Mr. Brackenridge observed the mode of burial, which "differed essentially from the Chinook, the graves being marked by a heap of stones surrounding an upright post." It was necessary at last to cross the main Columbia; and these natives having become dissatisfied, from some unknown cause, the chief saying "his heart was bad," were unwilling to lend us a canoe, until they unexpectedly found us independent of them, in some measure, by the possession of balsas. One of our Canadians lost his gun; but it appeared literally to have been borrowed without leave, as subsequently, at the Company's Post, it was considered recoverable.

On the 7th, we left the river, and ascended to the plain above; where we passed a night without water, except a little we had brought with us, and almost without fuel. The country was more level than that west of the Columbia, and somewhat green and grassy; and, but for the scarcity of water, seemed well enough adapted for pasturage.

On the 8th, we arrived at OKONAGAN, where we found two White men, Canadians, and the usual accompaniments of a trading-post, numerous half-breeds, and a small encamp-

ment of natives outside the stockade. Three or four "bateaus," of similar construction to our river-boats of burden, were laid up on the bank. Canadians, it appears, are exclusively employed in navigating the Columbia; for the knowledge the natives have of the river is local, extending only to particular sections.

On the bank of the Okonagan River, a large tributary which enters the Columbia at this place, I observed a "sweating-house." It was low, rounded, and covered with clay, affording scarcely room for more than a single person; and it might readily have been mistaken for the work of a beaver or some similar animal. The steam was said to be produced by means of heated stones.

We remained a day or two at the fort, and then re-ascended to the grassy plain. Saline efflorescences were occasionally mixed with the soil, yet were not found to affect sensibly the water of the district. This was especially remarkable in the bottom of the "Grande Coulée," where were ponds or small lakes without outlets.

We sometimes got a view of distant hills in the North, on the borders of the country, which is here called NEW CALEDONIA. We were told that these saline efflorescences extend into New Caledonia; and reference was also made to sudden variations in the weather in that country, "the ground being one day covered with a foot of snow, while on the following the green grass would be visible." It is an elevated region, shut out from the coast by the Snowy Range of mountains; and, from a box of minerals which was shown me at Okonagan, its geological structure appears to be Primitive or Granitic.*

We saw no natives until we reached the mouth of the Spokane; and indeed, throughout our whole journey, natives were only met with where I have specified; a circumstance that will convey an idea of the scarcity of inhabitants in Interior Oregon.

Scattered pines make their appearance along the Columbia

* The TAHKALI, inhabiting the northern part of New Caledonia, are distinguished among American tribes by the remarkable peculiarity of burning their dead. This is certainly an unexpected locality for a Hindoo custom, and it may be worth inquiry, whether any connexion can be established through the Siberian tribes.

as low down as the point where we first left the river; but, after crossing the Spokane, I found them more abundant, and not confined to the immediate banks; presenting, with the absence of undergrowth, natural parks, and some unexpected analogy to the Australian woods. A single lodge was seen on the margin of the Columbia; and as we approached COLVILLE, two natives called to us from the opposite bank. Colville is almost a village, containing an outside row of buildings for the accommodation of the Whites and half-breeds in the service of the Company; while the peculiar local circumstances at the head of the "Kettle Falls" permit the establishment of a farm. Our horses having been brought up among the aboriginals, were quite unused to these signs of civilisation.

We remained three days at the fort, and then proceeded south about sixty miles, to Chimikaine, the recent establishment of Messrs. Eels and Walker, of the American Mission. At a point about half-way we found an encampment of natives; where a woman, in place of the Chinook plan of suspension, was swinging her child from side to side; and where we saw wampum made of bird bones, and some tons of "kamas root," stored in sacks neatly made of matting. In this district, the natives "cut down the pines for the sake of the black lichen (Alectoria?) which grows upon them, and which is made into bread, or mixed with kamas in a sort of pudding."

The Missionaries stated, that the "winter here began about the 1st of November, and lasted till the middle of March; and that there was frost on the preceding 4th of June. But flowers, notwithstanding, were to be found in the middle of February."

A fine-looking old chief, well known from his respectable character, and from his having been a great friend to the Whites, joined our party at this place. He belonged to the tribe called PONDEREY by the Canadians, which inhabit a district to the eastward.

On the 21st of June, we again set out, and, after proceeding about ten miles, we recrossed the SPOKANE by means of a canoe left for the convenience of travellers. This river, throughout the greater part of its course, very nearly coincides with the boundary of the open country. To the

eastward of the Spokane, the surface is more broken and hilly, with rocks and scattered trees; a portion of territory sometimes called the "Blue Mountains." On the other hand, the plain intervening between the Spokane and the junction of the two branches of the Columbia is so monotonous, that "a native guide has hitherto been found always necessary in crossing it."

Our course was now parallel with the river; and on the second day we came upon a large encampment, containing about twenty lodges, and perhaps three hundred natives. They were engaged in procuring kamas, while numbers of horses were feeding around. Some of the lodges were, as usual, of mats; and to my surprise, I saw also buffalo robes, and conical skin-lodges, like those used on the Missouri. This place, however, is not within the range of the buffalo, although apparently well adapted for them; and but "a single instance was on record of a stray animal having been seen in the vicinity of Colville." Ever since leaving the Snowy Mountains, we had heard of natives being absent "in the buffalo country," but we now for the first time saw evidence of these visits.

From some unexplained cause, game is almost wanting in Interior Oregon; and in the course of a journey of eight hundred miles, the only large quadruped we saw was a solitary wolf. Antelopes, however, are occasionally procured by the natives. Notwithstanding, therefore, the "moccasin" and original "buckskin pantaloon," the Oregon natives hardly merit the name of hunting tribes; neither, indeed, can they strictly be termed wanderers. Salmon forms their principal resource, eked out with kamas and other roots, so that a certain round becomes necessary in procuring subsistence; but a tribe always occupies the same station at the same season of the year.* Since the introduction of horses (derived from the Spaniards of New Mexico), pasturage has in some degree influenced the selection.

A half-breed was living as a "free trapper" with the band in question; the first instance of the kind we had met with. He stated, that "the party had come from the upper part of the Spokane River: also, that beaver were formerly

* See the Ethnography of the Expedition.

common in all these streams, and were caught by the natives by setting baskets; but, owing to the introduction of beaver-traps, they had become almost extinct."

We here had some difficulty with a native about the ownership of one of our horses. The introduction of new and valuable property might be expected, in the absence of law, to give rise to numerous disputes; but, whatever may be the case in dealings with strangers, no difficulty, I am assured, "has ever been known to arise among the natives themselves."

On the following day we passed a similar though smaller encampment, but, being desirous of avoiding unnecessary trouble, we did not visit it. Further on, we met a party in motion, with all their horses and other property. Infants on the board were suspended to the flanks of the horses, a practice said to be "derived from the eastern side of the mountains;" and the lodge-poles were disposed in such a manner that one end was left trailing on the ground. Several of the horses were spotted black and white, such being favourites with the Oregon natives.

On the 25th, we arrived at LAPWAI, the mission establishment of Mr. Spalding, situated on the Kooskoosky River. This was the first stream flowing into the Western Ocean, reached by Lewis and Clarke; and "the tradition of that expedition still remains among the natives; of surprise at the personal appearance of the new-comers, and at the sight of strong beards." Nevertheless, it was said that "no idea of difference of race, such as is recognised by Europeans, ever enters into the heads of the natives." Several ladies of the American mission had travelled by land from the United States; and they were, I think, the first White females seen in Oregon.

In the mission-house we had a meeting of natives, to whom some of the principal events of our Voyage were narrated; and with the aid of a map, they seemed entirely to comprehend the course. As some shadow of governmental protection might be useful to residents in this remote quarter, the occasion of our visit was stated in these words: "our great father had sent out his ships to look after his children in all parts of the world." In return, they gave us some specimens of native eloquence, which however did not

come up to our anticipations; the burden of their story seemed to be, that "they were themselves a poor miserable people." No one can be regarded as altogether safe in the "Indian country;" and, from some superstitious idea, a member of the Hudson Bay Company had been recently assassinated.

Mr. Spalding had neat cattle and sheep, which thrive remarkably well; also a mill and a plot of ground cultivated by irrigation, a novel idea to the farmer from the United States. A field of wheat looked remarkably well, as also various garden vegetables; and maize succeeds here, and even it is said at Colville, although it had hitherto failed on the coast. Many of the natives had followed Mr. Spalding's example, and he gave them the character generally of being "an *exceedingly industrious* people." Here was abundant evidence, were any needed, that the North American tribes are in nowise averse to the arts of civilisation, or devoid in any respect of the common attributes of humanity.

The plantations of the natives, situated in a small lateral valley, were visited on the following morning. One man had adopted entirely the customs of the Whites, having built himself a comfortable log-house, while his wife, an interesting-looking woman, was neatly attired in the European fashion. The little valley seemed, in fact, an earthly paradise, which I could not quit without misgivings as to the future.

After proceeding about fifteen miles, we arrived at the forks, having passed on the way not less than a thousand horses distributed over the country in scattered bands, while others were here undergoing the process of furnishing hairs for halters. The natives, to the number of some forty families, were congregated in a single circular building formed of rails; and, after some delay, they furnished us with canoes, by the aid of which we crossed the Shoshonee, or great southern branch of the Columbia. A similar building to the last was seen a few miles below on the opposite bank; but our path soon diverged from the vicinity of the river.

On the third day, we reached the waters of the WALLA-WALLA River at a place where we found I think one or more native habitations, and in the evening we arrived at

the Fort, which is situated a few miles below the junction of the two branches of the Columbia. Various *games* were as usual going on outside, some requiring skill and agility, but all apparently having gambling for their foundation, and this seems to be the "business of life" with the natives, when they are encamped around the forts.

We saw here a waggon the first that had been driven all the way from Missouri, and during our three days' stay, a White man in the service of the Company arrived from the "Snake Country." We also received a visit from Mr. Gray and Dr. Whitman, from the American Mission Station, which was several miles distant.

The multiplicity of languages in Oregon, is even greater than in the Eastern part of North America, and is clearly independent of peaceful relations. In this respect a striking contrast is presented with Polynesia, where, in spite of the geographical isolation, a similarity of language prevails over a wider space than in any other part of the globe.

The diversity of languages in America is a serious obstacle to missionary operations, and I have sometimes thought it may have had a very important bearing on the destiny of our aboriginal tribes. When, too, it is considered that the professed interpreters seldom acquire a correct knowledge of these languages, it may be questioned whether the people themselves have hitherto been fairly reached?

On the 4th of July, we proceeded on our journey, and crossing the main Columbia, we again entered the valley of the Yakima. On the following day we crossed this river with the aid of a canoe, at the residence of a single family. A small canopy, hardly sufficient to shelter a sheep, was found to contain four generations of human beings, seated in the posture which takes up the least possible room. They had just returned from procuring their day's subsistence, which consisted of the berries of the Cornus, and the insight into aboriginal life was by no means prepossessing. Nevertheless, the attentions bestowed on the eldest of the party showed an interesting trait in the native character, in strong contrast with the conduct of the Polynesians. I remarked also, that the eldest alone had the cartilage of the nose pierced.

The country, as throughout a great part of the Interior,

did not appear to become green at any season of the year, but presented a hoary aspect, chiefly from the prevalence of Artemisias. The river was observed to pass the minor transverse ridges, very much as the Potomac and Susquehanna do the different ranges of the Alleghanies; and it pretty uniformly receives a tributary just prior to entering the gaps. On the 7th, we arrived at the forks, where the Yakima seemed to be fordable at this season; but we did not make the attempt, as we were able to avail ourselves of a canoe belonging to a native family.

We now proceeded up the banks of its tributary, the SPIPEN, the valley gradually narrowing and the hills beginning to assume a tint of green, while trees once more made their appearance. On the 8th, we fell in with our acquaintance, the chief who formerly sold us horses, and he joined our party for the remainder of the journey. His "town" consisted of only five or six cabins, so that his influence did not appear to be widely extended. One of his sons came on horseback to meet us, and exhibited the same exuberance of spirits we often remark at home in young men who regard themselves a little elevated by fortune. A few miles above we regained our former path.

We had no difficulty in recrossing the mountain ridge, for the snow was mostly gone from the summit, exposing unexpectedly an undergrowth of bushes. We were again interested in the virtues of the native character, on the occasion of meeting a party carrying along a dying man.

The streams to the westward of the ridge having now subsided, we got on more rapidly than before. About twenty miles from the coast a portion of the NISQUALLY tribe had established themselves for some temporary purpose. At our last encampment, before parting with our natives, the idea of initiating them in gymnastic exercises was somehow taken up, and they entered into the sport very willingly, and with some spirit.

On the 15th, we reached the Fort and rejoined the Vincennes; previously, however, being somewhat surprised at our horses going into the salt water to drink, at a place too where small sharks, flounders, and other marine fish are abundantly taken. The circumstance, however, was not regarded as unusual by the people on shore.

SOUTHWESTERN OREGON.

I am indebted to the notes of Mr. Agate and Mr. Brackenridge for the following particulars respecting the natives seen on the journey from the Columbia to San Francisco in California.

"The party left the Willamette settlement on the 9th of September, and on the same day met with some KLICKATATS from the neighbourhood of Vancouver, who had come on a hunting excursion. This tribe is distinguished by having the lower part of the septum of the nose cut away. 10th, Crossed a creek, near a large native burial-place, where wooden utensils and other articles were deposited. On the 13th, footsteps of natives were seen, and also a fish-weir.

"On the 14th the party fell in with an old KALAPUYA, whose portrait was sketched by Mr. Agate. He wore moccasins, an elk-skin dress, a cap of fox-skin with the ears remaining, and his quiver was of seal-skin. Mr. Agate remarked further, that the costume of the Kalapuya women is not unlike the Polynesian. For the last four days the prairies were found to be stripped of herbage by fires, some still burning, that had been kindled, it was said, to facilitate the gathering of sun-flower seed." No marks of fire had been observed in Interior Oregon.

"On the 15th the party crossed the Kalapuya or Elk Ridge, which is upwards of a thousand feet in elevation, and separates the waters of the Willamette and Umpqua Rivers;" and likewise, to all appearance, the Kalapuya from the UMPQUA tribe. "16th, Mr. Agate was of the party that visited the Fort. The Canadian in charge was in daily expectation of an attack from the natives, partly in consequence of a refusal to supply them with ammunition: he attributed the hostile disposition of the natives south of this place to the circumstance of the small-pox having been accidentally introduced among them, and he discouraged any attempt to proceed further. 17th, In the mean time the camp was visited, both on this and on the preceding day, by different natives, who appeared friendly and inoffensive, and soon went away.

"On the 18th, the journey was resumed, and the party

crossed a prairie that was still burning. 19th. Two unarmed natives were seen, who wished to come into the camp, but this was not permitted. The bark of the Arbutus procera appeared to be made use of in this quarter for some purpose not ascertained. 20th. Fell in with four or five natives, who said that the people on the Umpqua were waiting for Michel's party (trappers of the H. B. Company), intending to attack them. 21st. Encamped at the foot of the Umpqua Ridge, which divides the waters of the Umpqua and Rogues rivers. The pass is very steep and difficult, and is also considered dangerous on account of the bad character of the natives, who, according to report, sometimes shoot arrows at travellers or their horses, from places of concealment.

" On the 22nd the party crossed the ridge without accident, and without seeing natives, and encamped at its southern base. 23rd. Rested for the day. Three men of the KLAMET tribe would have passed us without speaking, had not our guide addressed them. All the natives seen since leaving the Willamette, have been a squalid miserable set of beings, shy in approaching white men. 24th. Resumed the journey; and, in the course of the day, several natives were seen hiding among the trees and bushes, but they did not appear disposed to molest us. 25th. Encamped on the banks of Rogues River. One of the hunters reported that, after having killed a deer, he had been shot at with arrows, and forced to abandon it. 26th. Some natives* were seen, and also canoes, which were excavated from logs, and appeared to be used principally for spearing fish in the shallow waters. Reached Turner's camp, where a party of traders had formerly been defeated, and compelled to return. Human bones were strewed around. 27th. Continuing along the river, natives were heard shouting on the opposite

* A native was reported to have been seen, wearing a species of cuirass; in all probability, similar to the one obtained from the same tribe through the Hudson Bay Company. This cuirass is composed of flattened parallel sticks, woven together by means of twine; most of which is of vegetable fibre, and the residue of human hair. The shoulder-straps are of the usual soft leather, but with the hair remaining on. Apart from the peculiarities in the manufacture; this, and the slight leather shield of the Missouri, form the only examples I am acquainted with of the use of defensive armour by the American tribes.

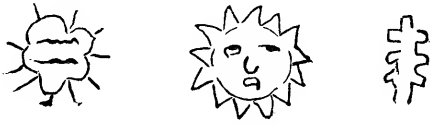
bank. At a place where a former party had been annoyed, several of the company dismounted and scoured the bush. Some natives at a great distance took shelter behind a tree, and it was evident that the rifle was much dreaded in this vicinity. After leaving the river, three mounted natives were seen making off at a rapid rate." The horses had doubtless been derived from some trading party, and were the only ones seen on the route. "The mistletoe was abundant, and in many instances formed the only foliage on the trees. 28th. Some natives again were heard shouting. Encamped at the base of the Shasty or Boundary Ridge, which very nearly coincides with the forty-second parallel of latitude, or the political boundary between Oregon and California. Another trading party had been defeated at this place, and compelled to return. On the following day, however, the ridge was crossed without seeing natives." The further continuation of this journey will be found noticed in the account of the Californians.

It is known that the Mexican annals derive the origin of the Aztecas (the intrusive Mexicans) from the North, in the direction of Oregon. The connexion may not be easily traced; but a coincidence has been spoken of, in the occurrence of the terminal "tl," so characteristic of the Mexican language, among the Nootka people. I remarked that the same termination was common with the Chinooks; and I heard it even in the Nisqually tribe. The lateral fringe to the trowsers, universal in Oregon, is known to occur among the aboriginal Mexicans; with whom, moreover, it is said to subserve the purpose of an inventory.* The fashion, aboriginal with the Oregon females, of wearing the hair in two lateral braids, is also widely diffused in Spanish America; and we observed it even in Chili. The use of masks, which is also common to Mexico and the north-west maritime tribes, will be adverted to hereafter. And further, a distinct correspondence in style of art is traceable between the ancient paintings and sculptures of Mexico and Yucatan and the carved-stone pipes of North-west America. Another fact not irrelevant to the point in question, is the observation made by the missionaries, that the tribes of Interior

* See Basil Hall's Travels.

Oregon are at this day "all pressing gradually towards the south."*

It was only after leaving the country that I learned the existence of sculptured rocks on the banks of the Columbia. Mr. Drayton was unable to remain many moments at the spot, and among a considerable variety of figures he obtained only a rapid sketch of three of them. The importance of



the subject, however, has appeared to me to warrant the insertion of a copy in this place. And it will be observed, that the figures are simple, and present some analogy to the sculptures found on the Orinoco, as given by Humboldt.

MEXICO.

It is said that the aboriginal stock so preponderates in Mexico, that the people do not "regard themselves nationally as belonging to the white race." I have myself seen but very few Mexicans, and these have been chiefly of pure Spanish descent. In two or three individuals of mixed race, met with in the United States, the Mongolian traits were sufficiently obvious. On the other hand, a Mexican of some note from the province of Sonora, whom I saw in California, was scarcely distinguishable, in his personal appearance, from the pure Malay. I have, therefore, positive evidence of the aboriginal presence of two races in Mexico, though in what proportions I am altogether uncertain.†

Some travellers in Mexico have spoken of a "large admixture of the Negro race;" but as true negroes are at the same time admitted to be rare, the opinion may have

* See Ethnography of the Expedition, p. 224.

† In the Letters of Cortes, mention is made of "albinoes having apartments in the palace of Montezuma." This point may have some bearing on the question at issue; for I have heard of the occurrence of albinoes in the Malay race, but not among Mongolians.

reference to the Malay stock. A distinction in personal appearance is also said to exist "between the inhabitants of the table-land and those of the low country." The "Mexican of Mechoacan," figured by Humboldt, is evidently Mongolian. I confess, therefore, that the distribution given on the accompanying map, of the two races in Mexico, is not entirely satisfactory.

YUCATAN.

Some bas-reliefs from Palenque, in Yucatan, now deposited in Washington, contain a human profile: and it is eminently characteristic of the Mongolian, and seems decisive as to the physical race of the people who reared the remarkable ancient structures discovered in that part of America.

NORTH-EAST AMERICA.

The aboriginals of the United States have appeared to me in every respect physically identical with their brethren west of the Rocky Mountains. They have, however, a marked superiority of stature; and they do not in point of size, fall below Europeans.

I have seen examples of the tribes of the MISSOURI and Upper Mississippi, in the delegations which, from time to time, have visited Washington: as, Menomenies, Winnebagoes, Sauks and Foxes, Sioux, Pawnees, Otoes, Miamies, and Iowas. I have been interested in hearing the Missouri drum and flute; and have felt regret that no one should have turned his attention to the preservation of the music of this fading people. I saw neither musical instruments nor dancing among the Oregon tribes; nor anything like pottery; such as is used by the aboriginals of our Southern States.

I have also seen CREES, from the centre of the Continent, north of the waters of the Missouri, where the same superiority of stature appears likewise to prevail. The UPSAROKA, or Crows of the head-waters of the Missouri and Yellowstone, are also to be ranked among the Eastern tribes; and, judging from a portrait at Washington, they belong to the Mongolian race.

IROQUOIS formed part of the crew of the Hudson's Bay

Company's steamboat at Nisqually; and I saw one of them employed in building operations near the Fort. I once also met with a man of this tribe, in western New York. The only DELAWARE I have ever seen, had been brought up among Whites. To a resident of Philadelphia, it was almost startling, to hear of this tribe in Oregon joining the Blackfeet in hostile incursions into that country.

I once visited the NARICK tribe, residing within a few miles of Boston; and found them few in number, and much intermixed with Negroes. I recently fell in with a party of PENOBSCOTS, on their return from a visit to Boston. They had tents; and the women were neatly dressed, and all industriously occupied, chiefly in weaving baskets of various pattern, which they disposed of by the way. Several could speak English; and on asking one of them about her journey, she replied in a low voice, and with an anxious look, "The country is too full!" I saw no marks of Negro admixture; but those of European were sufficiently obvious. They were all fairer than the usual aboriginal standard; and one of the men was in no respect distinguishable from a European.

The SEMINOLES, I have been informed, "mix with Negroes, but are careful to keep the children out of sight." I have never seen Seminoles, but from portraits and descriptions, I am satisfied that they belong to the Mongolian race. I may say the same of the CREEKS; in regard to whom, however, I have fewer materials for forming an opinion.

The aboriginals of our Eastern States have been suffered to pass away, with little care taken to preserve a record of their attainments, and the arts in their possession. Another century, and of their implements, stone hatchets and arrowheads will almost alone be left, to tell that such a people has existed.

Figures of human heads have been obtained by Mr. Squier from the ANCIENT MOUNDS of the Ohio, and the features are unequivocally those of the Mongolian race. The various accompanying articles (such as pipes, representations of the toad, deer, puma, &c.) afford another instance of the universal rule in monumental history, that the most ancient works are not only the most gigantic and enduring, but they manifest great refinement of workmanship, and purity of taste.

In this instance, however, refinement was unexpected from tribes who were evidently in the "hunter state."

CHINESE.

A few scattered Chinese are settled in the principal cities of the United States, but the number is so small that their existence is not generally known. Some of these families I had seen; and, indeed, I had satisfied myself of the physical identity with the aboriginal American before joining the Exploring Expedition.

At the HAWAIIAN Islands I had more ample opportunities for verifying this result, the Chinese being now among Polynesians. It is true there was no juxta-position of Chinese with aboriginal Americans; but we sailed from these islands to the American coast, and returning at the close of summer, proceeded, while the impression was new, to the East Indies, where we again saw Chinese surrounded by a Malay population.

The lighter complexion of the Chinese was very striking when they were standing among Hawaiians, and the nose was decidedly more prominent; so that a commonly urged objection to identity with the aboriginal Americans, disappeared. They had been brought in American vessels, and they seemed permanently established, being engaged in various employments, such as those of servants, shopkeepers, and sugar manufacturers. The number seen, did not exceed twenty, including one female, who was partly Portuguese, from Macao. They had a burial-place about three miles from Honolulu, where the tombs were constructed after the national fashion, which has often been figured and described.

MANILA was crowded with Chinese; and I was surprised at the scanty clothing of the majority of them, reduced often to the simple belt or sash, as with the Feejeeans and some Hawaiians. They had small retail shops, and were evidently the principal artisans. One of the most remarkable spectacles to a stranger, was the confined space in which they carried on, without interfering with one another, all mechanical employments. A competent judge of these matters remarked, "that he had never seen mechanics require so little room, and at the same time do their work so neatly

and faithfully." In passing through the streets occupied by them, I repeatedly selected individuals, who, if transported in a different dress into the American forest, might, I thought, have deceived the most experienced eye. In stature they were by no means so much degenerated as the Malays, but were reported to be less cleanly in their habits.

The upper classes of Chinese presented a very different picture, and I was much impressed with the respectability of their standing, with their general intelligence, and their ease, politeness, and refinement of manners; in all which there was evidently nothing derived from their Spanish rulers. They had shops furnished with costly articles of Chinese manufacture; and individuals were pointed out to me, who would undertake commercial transactions of tens of thousands of dollars. One man was desirous of procuring an engraving of a steamboat, "to send to his friends in China; who," he said, "had been much alarmed at the accounts they had heard of these vessels."

The main object with the Chinese of all classes was alleged to be, "to make a fortune and return home." They intermarry freely with the Malays; but whether in such cases the children are admitted into China, I did not learn. Persons of mixed descent were numerous in the city; but in the Interior I could not discover the least trace of the Chinese: it was said that, whenever they leave the city, "they are subject to imposition and bad treatment, as the Malays have an aversion to them." They in consequence confine themselves to the commercial ports, as throughout the East India Islands, where they everywhere bear the character of being the most flourishing class of the population.

Chinese umbrellas were observed to be in general use among the Malay population, and the importation of them must form an important branch of commerce, not only at the Philippines, but in the other Malay countries.

A few Chinese were settled at the capital of the island of Sooloo, where they had the best shops, and conducted machinery for hulling rice. Their presence sufficiently disproved the assertion, that in the East Indies "the Chinese require European protection;" although, it is true, they are ready to avail themselves of its advantages. It is known, too, that the Chinese have independent establishments on

Borneo; but the acquisition of political power does not enter into their plan of operations in foreign countries.

At SINGAPORE, some unlooked-for testimony came to the support of views already expressed; and on a point of this kind I would lay great stress on the observation of uncivilised man. Our Feejeean, Veindovi, was now, for the first time, brought in contact with a body of Chinese; and he at once identified them with his old acquaintances, the tribes of North-west America.

Singapore differs essentially from all the other cities I have visited; bearing the character rather of a commercial camp. The female portion of the population numbers about "one-tenth;" but a woman was very rarely seen, partly in consequence of the practice of seclusion, which pertains to the principal classes of visitors.

The Chinese were present in many thousands, and composed one-half of the entire population. Among them all, I was assured, there were only "two real Chinese women; though there were persons who could go back seven generations before reaching the Malay mother." The prevalence of the depressed nose, was perhaps in some measure attributable to this partial Malay descent. There was, however, great uniformity in the complexion; as I repeatedly remarked, when crowds were standing with their shaven heads exposed to the full power of the mid-day sun. They were all of the lowest class. Mechanical employments were comparatively rare; and there were no Chinese residents of equal standing with those established at Manila, or those, according to report, at Batavia.

Here, however, the Chinese were under less restraint than at Manila; perfect freedom of opinion being tolerated at Singapore, and each nation allowed to follow its own customs, so far as these did not conflict with civil order. Our arrival, too, was at an auspicious moment, at the commencement of the Chinese holidays; and we enjoyed perhaps as fair an opportunity of viewing the people, as we should have had at Canton, during the then existing war with the English; for it should be observed, that the Chinese commerce with Singapore remained uninterrupted.

In the evening, the streets in the Chinese quarter presented a novel and astonishing spectacle. The shops were

all thrown open, and the whole population seemed assembled for one purpose, that of *gambling*. The stakes in general were trifling; but the variety of games was inexhaustible; and while looking on, some of reputed European invention, appeared to be traceable to a Chinese source. Again, the occurrence of numerous games of chance in aboriginal America, seemed to intimate in that quarter something more than an accidental coincidence.

Stages were erected by the side of the street, and *theatrical* representations were going on at all times; the rich tinsel of the evening, suffering however materially by the daylight. A numerous and attentive audience were always listening, and at times appeared a good deal affected, maintaining their ground notwithstanding the interminable length of the pieces. The movements of the actors were sometimes graceful; but there was everywhere a mixture of the grotesque, not agreeable to European taste. Female characters were personated by men singing in "falsetto." The male characters wore masks; these were always much broader than the face of the wearer, and often resembled the Chinese as conventionally depicted by themselves, not such as I have found the people in nature. There was always a full orchestra, and I confess being pleased with the *music;* notwithstanding the predominance of gongs, which has procured for the Chinese the reputation of being a "noisy people." The feats of "*tumbling*" exceeded everything of the kind I have elsewhere witnessed.

Among other fantastic exhibitions, a masked demon, seeming ready to devour the bystanders, was led through the streets; and although it was mid-day, made a really formidable appearance. At first, this appeared the very original of Humboldt's "Mexican priest, in the act of swallowing a human victim;" and my companion, who also recollected the figure, observed that "he was thinking of the same circumstance." On referring, however, to the book a few days afterwards, we found only a general resemblance, more apparent in the profile. On the front view, the Chinese *mask* more resembled the head of the lion, (an animal foreign to China, and an emblem of Buddhism); while tails of various quadrupeds were hanging over the shoulders of the wearer. Some further connexion, may

possibly be established between China and Mexico through the use of grotesque masks by the maritime tribes of North-west America.

The *temple* was to me a very interesting object; for it is impossible in a picture to do justice to Chinese architecture. Amid the endless details of fanciful carved work, there was nothing uncouth; and on receding, the more delicate sculp-'ures disappeared gradually, leaving a finished and pleasing general effect at all distances. In the outline, and especially in the form of the roof, I thought I could equally, as in the Malay architecture, distinguish the Feejeean style. I remarked in the interior of the building, a difference from other Oriental forms of worship, in the apparent absence of a sanctuary.

I visited likewise one of the "*junks*" at anchor in the harbour; and found occasion to dissent from the common opinion, condemning the construction of these vessels. Pipes were offered by different persons on board, as we passed along; and in one instance cigars, by a man who invited us into his apartment, and spoke some Spanish words, which of course he had acquired at Manila. The cables were of rattan; and such must be extremely strong, besides possessing some advantages on a coral bottom. The figure of an eye in front, about which much has been said in ridicule, occurs likewise on Indian and Arab vessels, and even in some instances, on those of the Mediterranean. The small Chinese boats, short and triangular, impelled by a man standing and pushing the two oars, were again a novelty in the way of navigation.

In the Chinese quarter of the city were several opium shops, or rather cells, for they contained merely lounging space for the votaries of this enervating and destructive species of intoxication. In addition to this vice, the Chinese make use of ardent spirits, tobacco, and betel.

At the CAPE OF GOOD HOPE, I observed a few scattered Chinese; who however did not give rise to any particular remark, other than that they had lost their nationality, and had arrived in European vessels. A Chinese was also seen at St. Helena.

On my second Voyage, however, I found Chinese around the borders of the ARABIAN SEAS, who had not been assisted

in their wanderings by Europeans. Most of these were established at Bombay; where I met with a dozen or more. A Chinese was residing at Zanzibar; and I remarked that he had adopted the Arab costume, but I did not learn his history.

Many years since "a Chinese came to Mocha, turned Muslim, and married an Arab woman." His son, "Ali Cheena," retained strong marks of his paternal origin, and seemed hardly at home amid the surrounding population. He was observed to be fond of frequenting the bazaar; but was annoyed by the Arabs sometimes suggesting that "he had better return to his father's country and put on a hat." He served us during our stay in the capacity of cook, and he was the third native of the place, who could speak some words of English; the only European language known at Mocha. During the few days spent at Muscat, I did not fall in with any Chinese.

I have already referred to the superior powers of endurance of the aboriginal American; while in perseverance, patient industry and frugality, the Chinese will, I think, be admitted to excel other nations. These are qualifications that promise to have an important bearing on the future prospects of the Mongolian race.

In regard to ANTIQUITIES, there are probably few nations so rich in monumental history as the Chinese: especially in their paintings, preserved for many centuries by such an indestructible material as porcelain.

OTHER MONGOLIANS.

Travellers have spoken of a resemblance between some of the Interior people of BORNEO and the Chinese. I have not sufficient materials for a decisive opinion; though all oral testimony has been unfavourable to the presence of Mongolian aboriginals on that island. I have not however met with persons who have seen the "Idan" of the northern mountains; tribes, that under this point of view may deserve further inquiry. The same class of people, sometimes bearing the name of "Igorote," are known to occur both on Palawan and Luzon.

I have followed Blumenbach in referring the LAPLANDERS to the Mongolian race. Dr. R. E. Griffith has seen some

of these people, and he considers them as "differing physically from their neighbours on the south, and as approaching, so far as an opinion may be formed from descriptions, the Esquimaux." They appear to be connected with the Siberian Mongols, through the Samoiedes.

CHAPTER IV.

THE MALAY RACE.

If the Mongolian occupies a larger portion of the surface of the globe, the Malay is yet the most widely scattered race, and, in some respects, it is also the most remarkable. In institutions and social condition it exhibits, perhaps, greater variety than all the other races combined; and, from a universal, instinctive attachment to the water, it almost merits the appellation of "amphibious." Endowed, too, with a wandering disposition, less regardful of a home than the rest of mankind, its march has been truly "upon the waves;" and, beyond the Atlantic, it has reached almost every islet in the ocean that affords the least means of subsistence.

The Malay complexion is very uniform, and is always decidedly darker than the Mongolian. I have never seen it light enough to show the least trace of a flush, nor, on the other hand, so dark but that the marks of tattooing were conspicuously visible. The colour may be termed reddish-brown, more nearly than in the Mongolian race, approaching the hue of tarnished copper.

The hair seems in greater quantity than in the other races, the Papuan, perhaps, excepted; and it is straight, or at most wavy, and usually raven-black. When cropped within about two inches, I have observed that it will generally stand erect, owing, apparently, to a coarser texture than in the Telingan and White races. The beard grows long, but is almost always thin, though some variety prevails in different countries. The East Indian tribes are nearly beardless; while among the Polynesians a beard is not unusual, though it does not seem to get strong till late in life. I have occasionally seen Polynesians, in whom the

beard was nearly thick enough to conceal the skin. The practice, however, of eradicating it prevails very generally in the countries inhabited by the Malay race.

In style of feature there is often no striking dissimilarity from Europeans, especially in middle-aged and elderly men, many of whom have the nose aquiline; while in females and young men it is almost always flattened. Nevertheless, I think it will be found that there is less prominence of profile in the Malay than in any other race. This appears to be owing, in part, to the absence of rigidity in the cartilage of the nose, as with the Negro. The lips are likewise thicker than among Europeans.

The profile has appeared to me usually more vertical than in the white race; but this may be owing in part to the mode of carriage, for the skull does not show a superior facial angle. A more marked peculiarity, and one very generally observable, is the elevated occiput, and its slight projection beyond the line of the neck. The face, in consequence, when seen in front, appears broader than among Europeans, as is the case with the Mongolian, though for a different reason. In the Mongolian the front is depressed, or the cranium inclines backwards, while in the Malay it is elevated or brought forwards. The Mongolian traits are heightened artificially by the Chinooks; but it is less generally known that a slight pressure is often applied to the occiput by the Polynesians, in conformity with the Malay standard.

A peculiarity in the Malay skull has been pointed out to me by Dr. Morton, in the tendency to unusual prolongation and projection of the upper maxilla. This character, though not universal, is strikingly exemplified in several East Indian skulls; and I have found traces of the same in the Hawaiian skulls obtained by the Expedition. It accords with the remark of Mr. Hale, "that the upper lip is very often, among Polynesians, slightly turned up."

For characteristic representations of the Malay race, I would refer to the following portraits, taken during our Voyage, a part of which only have been published: among Taheitians, to those of Otore, Paofai, and the "girl" among Samoans, to those of Malietoa, Mary Olo, Emma Malietoa, Matetau, and "children;" among New Zealanders, to those

of John Sac, and the "girl;" among Hawaiians, to those of the King and Queen, David Malo, Liholiho, and Haiha; and to that of "the native of Luzon." A very good idea of the Malay standard of female beauty may be obtained from the portrait of the Hawaiian girl, in Byron's voyage.

Yellow is the favourite colour throughout the countries inhabited by the Malay race, and it appears to be really the one most becoming to the deep brown complexion. Wreaths, too, are very generally worn for ornament, and they have appeared to me peculiarly adapted to the Malay style of feature.

A remarkable variation in stature occurs in the Malay race. The Polynesians (particularly the Taheitians, Samoans, and Tonga islanders,) appear to exceed in size the rest of mankind; while the East Indian tribes, and the inhabitants of the Indo-Chinese countries, fall decidedly below the general average. I will not undertake to offer an explanation; but there are facts connected with the nature of the food that have appeared worthy of notice.

Both divisions of the race live principally on vegetable food; but there is this striking difference: the food of the East Indian consists almost exclusively of rice, while the Polynesian (to whom grain of every kind is unknown) draws his subsistence mainly from farinaceous roots, and from certain fruits of similar consistence. The further superiority in the stature of the Polynesian chiefs seems a remarkable circumstance, when we consider that they are hereditary. At the Hawaiian Islands, residents declared, that it depended very much on "the greater quantity of food they obtained while young;" and I have reason to believe that the remark is not without foundation. We are reminded here of the process of forming a queen among bees. At the same time, certain kinds of food are undoubtedly more favourable than others for fully developing the human frame.

Notwithstanding I had formerly seen in the United States some individual Malays, I had not then learned to distinguish the race from the Mongolian, and my proper acquaintance with it dates from my visit to the islands of the Pacific. I there spent in all about two years among the POLYNESIANS, who, though so widely separated, may be

regarded as forming one people, and in many respects as a single nation, although composed of distinct branches or tribes.

CORAL ISLANDS.

a. *Eastern Paumotuans.*

On leaving the coast of Peru, in July, 1839, we directed our course westward, and, after thirty-one days' sailing before the wind, we arrived at length on the borders of the extensive coral archipelago interposed between the Marquesas, Society, and Gambier groups. The first land we made differed remarkably in its appearance from any previously seen. At first trees rose into view, and again sunk out of sight, alternating with the swell of the ocean. Soon, however, they seemed to acquire stability; the dull white coral strand became visible, and afterwards the surf, while from aloft the whole interior was found to be a lagoon. The term of "waterland" seemed fairly applicable to this offset of the new world we were entering; where, however, similar scenes soon became sufficiently familiar.

The island was called, on the charts, *Clermont Tonnerre;* and, after nearing it, we for some time could discover no signs of inhabitants. At length two natives loomed up among the scattered low plants and shrubs, and became the subjects of a good deal of scrutiny with the glass. They made no motions, and did not appear to be noticing us. Whether owing, in some measure, to the clear tints around them, the deep blue of the ocean, the paler sky, the snowy whiteness of the surf, and the fresh green of the foliage, their almost naked forms exhibited a very decided tinge of red.

I was of a party that eagerly sought the shore, regardless of the double danger, from the surf and natives. As our boats advanced, the brilliant hues of the submarine creation came into view, a far different spectacle from the universal dulness in turbid continental waters. Notwithstanding the variety of objects, it was exclusively a display of "animal life;" for even hydrophytes, or marine vegetables, were very nearly wanting. We landed, crossed the narrow rim, some twenty feet in elevation, to the margin of the lagoon; and, after remaining about two hours, we returned to the

boats. The "mineral kingdom" was found to be likewise absent; and the whole immense mass of animal debris, surrounded by unfathomable waters, clearly justified placing the coral isles among the marvels of nature.

The natives had kept out of sight while we were on shore; but, on the following day, on our attempting to land at a different point, they collected in a small body, men and boys, to oppose us, as is related in the Narrative of the Expedition. They were armed only with the long javelin, the favourite weapon of the Polynesians. I was not near enough to get a very distinct view of their features; but I could see that they had lank hair, and that beards were absent. They were naked, except a small covering, which yet conveyed an air of decency. Mr. Couthouy, who obtained the nearest view of these people, stated that "some individuals were painted, but there were no marks of tattooing."

Serle Island, distant some thirty miles to the westward and northward, was next visited. In general appearance it entirely resembled the island we had left; and, indeed, one description, with very slight modifications, will answer for all the coral rings. Lieutenant Alden, while engaged in the survey, approached near enough to induce some of the natives to swim off. "They first sent away their javelins, and a new-comer, bearing one, was turned back. They seemed friendly enough, though disposed to help themselves without much ceremony, but they could not be persuaded to get into the boat. One man seized his note-book, and was making off; but he returned it on seeing the anxiety of the owner, backed, however, by the offer of a piece of iron. This material they were very desirous of procuring, having evidently obtained a knowledge of it from trading vessels." In return for articles distributed, Lieutent Alden procured plumes or bunches of the feathers of the frigate-bird; a long strip of matting, of rather fine quality, about eight inches in breadth, and evidently intended for clothing; two cocoa-nuts; a bundle of the twining Cassytha stems, that was worn by one of the party; a large fish-hook, (perhaps of turtle-bone), in form and tie similar to those we afterwards saw at the Disappointment Islands; also "sinnet," or braided cord of cocoa-nut fibre, which is in use throughout

the islands of the Pacific; and twisted cords, or twine, of different degrees of fineness, some composed of fibrous bark, (apparently of some Urticaceous plant,) and others of human hair.

The absence of canoes at the above two islands is possibly connected with the like circumstance among the inhabitants of the neighbouring Mangareva or Gambier Group.

Two days' sail now to the northward, in the direction of the Marquesas, brought us in sight of *Honden* Island. The myriads of sea-birds, and the absence of cocoa palms, announced that there were no human inhabitants. So, on landing, did the absence of the house-fly, and of the Morinda; although the soil was found to be chiefly overgrown with the Pandanus. A third danger, however, presented itself, in the sharks, which were more numerous than at any other place visited. Our boats were regularly followed by long processions of them; and as the swell sometimes elevated the foremost above us, it required some familiarity with the sea to dispel apprehensions of an attack. Indisputable evidence of their prowess was found in the mutilated condition of the turtle that had sought refuge on the strand.

In passing round the island, some "oar-like implements" were seen from one of the boats. A stone hatchet also was picked up on shore, that presents some correspondence with the Hawaiian workmanship. At all events, the article had been derived from some of the high rocky islands; and it may probably mark the fate of a maritime enterprise.

b. *Otuans.*

After sailing thence for two days to the westward, we came in sight of the two *Disappointment* Islands. While yet several miles from the land, we were surprised by the appearance of canoes, which indeed had approached quite near us before they were discovered. They were very small, scarcely capable of containing more than two persons, and had a projecting beak at the stem and stern to take hold of, in getting into them from the water. The paddle also was remarkable on account of its curved blade. The natives sometimes came near enough to touch the ship's side, and picked up the different articles that were thrown

to them; but nothing could induce them to come on board. From their wildness and their neglected persons, I thought at first we had really got among "savages," such as are depicted in the imaginations of writers; and, indeed, their miserable appearance was almost sufficient to inspire doubts whether they could be human. One of them was addressing us, saying, as it appeared, "you have got a fine canoe;" and, indeed, the contrast was amazing; but it appeared less wonderful after we had seen their implements of construction.

A boat was sent to the island, to ascertain further the disposition of the inhabitants. A cluster of them was seen to collect near, on the beach, who at one time set up a dance. The report on the return of the boat was rather unfavourable, though no actual violence had been offered; and various articles of native manufacture had been procured.

On afterwards coasting along the shore in boats, we passed two or three canoes, which kept pace with us for a while, but would sheer off on any attempt to get near them. Some natives, however, were swimming, and we soon perceived that all were swarming with vermin. Here and there upon the shore were men bearing branches, or dancing, with a long club held by both hands above the head; and among them I observed one woman. As we approached the station of the chief, he arose from under a Pandanus, and was rendered conspicuous in the distance by having œdematous or dropsical legs. He was grey, and looked the grandfather of a good part of the population; and as the boats stopped, he came down to the water's edge, making various motions and grimaces. On being given to understand that there was a present for him, there was a manifest change in his countenance, and he seemed rather anxious to avail himself of his prerogative. He swam off to the boat and received the proffered article, presenting in return the cape or mantle of matting on his shoulders. He came off with others two or three times, and commenced a long harangue while still in the water, the purport of which was however lost upon us. More than one of our party mentioned afterwards being struck with the personification of the Grecian Neptune, as he lay floundering, his long

white beard streaming in the water.* He was unwilling to have us land; but some boats of the squadron effected a landing at a different point, and had communication with the natives.

On the following day, a visit was made to the smaller island, distant about eight miles from the first. The natives, who were all men, and in number did not much exceed a dozen, were assembled at the water's edge; but they made no hostile demonstrations, other than pushing back the boat. The surf being but slight, we had the advantage in the last resort, had intercourse of that kind been desirable. Several of us, therefore, landed by swimming, and we then obtained a nearer view than was altogether agreeable; for there was no escaping the Polynesian sign of friendship, that of touching noses. Our explorations, however, were circumscribed; for the natives, during a prolonged interview, were unwilling to have us leave the beach; and on parting, they gave us some evidently heartfelt adieus. A landing was subsequently effected at the further end of the island, and the principal vegetable productions were ascertained; but our new friends were soon on the spot, and the morning scene was re-enacted.

I had now obtained a satisfactory view of the natives; and I was struck with the deeper hue and more European style of feature, than in the aboriginal American; while a connection was already manifest, with the far-distant East Indians.

The array of thoughtful and venerable countenances bore some whimsical analogy to the leading members of a civilised village community; and I could not avoid mentally selecting the corresponding dignitaries, with their sphere of action, however ridiculously limited.

We did not learn the precise relations between the people of the two islands. They did not appear to be altogether on a friendly footing; though, from the number of old men, we supposed that wars were not common. The beard was universal; but I observed no marks of tattooing.

* As the same circumstance was observed, in the cruise of the Peacock, both at the Union and Ellice Groups, the coincidence could hardly have been accidental. The Polynesians, like the ancient Greeks, are fond of "tracing their genealogy to a god;" and it may be worth inquiry, whether something practical is not intended?

Among the articles procured at the larger island were oar-shaped clubs, six or eight feet long (their javelins they would not part with); pearl shells; adzes, the handles made of kneed roots, and the cutting portion of shell, either the Tridacna or Cassis. There being no production of the coral islands harder than shell or coral, a pointed instrument of bone was regarded by the crew with some curiosity, and was thought to be connected with the manufacture of pearl-shell fish-hooks. The bone was evidently that of some large land animal, and there being but one kind on the island, it seemed to throw new light on the enticements in similar situations, sometimes held out to visitors.

The wood-work was rasped, probably with the skin of the Shagreen-ray, which is used at other coral islands. The jaw of the toothed bonito (Sarda ?), was sometimes fastened to a stick, for some purpose not ascertained. Mats, principally, were used for clothing; but "tapa," or bark cloth (probably from the wild Procris), was not altogether wanting. Heaps of coral blocks, like monuments, long baskets set up in various places, and a stick of timber resting on two posts, were seen from the boat. Mr. Agate was of the party that landed on the larger island; and he remarked, "that the huts were very low, affording only room to creep under, and that water was kept in cocoa-nut shells," as afterwards observed at Raraka and the Union Group.

In all my subsequent experience, I have not found elsewhere anything that looked like a relapse from a more improved condition of society; and in this case, from the surrounding circumstances, it seems unavoidable. If we examine the handiwork, we shall perceive an apparent aiming at former arts, as though the knowledge were present, and the materials only wanting.

From various points of difference observed (as in respect to wearing the beard), I have thought these people should have a separate place from the islanders first visited. Perhaps some connection, notwithstanding the geographical distance, may be established with the Penrhyn Islanders, especially as there exists strong analogy in the manufactures.

PENRHYN Island, situated nearly half way between the Marquesas and Union Groups, was subsequently visited by the Porpoise. "It was covered with cocoa palms, and was

densely inhabited by the wildest set of natives that had been met with during the voyage. These natives had no hesitation about coming on board, but it required some vigilance to prevent them from pilfering everything they could lay hands on." They agreed with the Disappointment Islanders in "wearing the beard, and in the absence of tattooing; and their canoes, though much larger, were equally destitute of sails." The articles obtained from them show further resemblance, as the mats used for clothing, the fish-hooks of pearl-shell, the oar-shaped clubs, and the rasped woodwork. But we observe, in addition, large wooden shark-hooks, an article known likewise at the Vaitupan or Ellice Group; while the fine cords made of human hair, and the "bunch of feathers seen," remind us of the Serle Islanders.

Even where insignificant in point of numbers, the inhabitants of the more secluded coral islands are formidable in cases of shipwreck, holding, as they do, shores lashed by a heavy surf. The tide of civilisation may finally reach them, but they hardly seem in danger of being robbed of these lonely reefs by the substitution of any different race of men.

In order, however, to a better appreciation of the circumstances attending a home on the Coral Islands, some account of their vegetable productions may be here inserted. A remarkable uniformity was found everywhere to prevail; the same set of plants recurring, whatever the geographical distance. The species did not amount to more than thirty in all; none of them, perhaps, altogether peculiar. These facts are of importance in geographical botany, for it will be perceived that the coral islands do not connect the vegetation of the rocky groups.*

Often a small proportion only of the soil is sufficiently elevated for a vegetable growth, which is besides more or less scattered, and consists of trees, shrubs, and some detached herbaceous plants. The species unequivocally *indigenous*, contribute in a very slight degree to supplying

* Elevated coral islands, like Metia, and those consisting of an extensive plain, as Tongataboo, form an exception to the above remark. Another exception takes place, when a coral island is in close proximity to a high and rocky group.

human wants. They afford, indeed, timber; and an urticaceous tree and shrub furnish sparingly "tapa" (or native cloth) and cordage. Purslane (of two species) is pretty common, and forms a grateful esculent to visitors, though I have not seen it used by the natives themselves.

With the above exceptions, the useful plants appear to be of foreign origin. The *Cocoa palm* is the principal one; and so invariably is its presence attributable to human operations, that it has become a guide to the traders, in seeking for natives. The uses of this princely gift of nature, are by no means confined to its esculent properties, but far exceed in variety those of any other known plant. Without going into details, I will only quote the old remark, that it is possible to "build vessels, fit them for sea, and freight them, exclusively from the materials afforded by the Cocoa palm."

The *Pandanus* prevails more generally; and unlike the Cocoa palm, it has evidently diffused itself in a good measure without human aid. The only important exception to its universal presence was found at Wake's Island, which is uninhabited, and remote from other lands. The slight pulp around the base of the seeds is said to form an important resource for food, at the Caroline, Radack, and some neighbouring groups: but so far as my own observation extends, the chief use has been of the leaves for matting. I should mention that the leaves of the various species of Pandanus I subsequently met with in the East Indies and in East Africa, were unsuitable for this purpose.

Some few stocks of the *Morinda citrifolia* usually occurred on the coral islands, presenting likewise every appearance of spontaneous growth. On the rocky groups, however, the tree, besides being common, was observed to be sometimes planted, although the fruit was for the most part neglected. At the Coral Islands it may be more valued. According to Mr. Rich, the root is used in dyeing, both in Polynesia and in the East Indies.

Of the great variety of cultivated plants known to the Polynesians, the above three only appeared sufficiently hardy to bear the exposure of coral islands, of those at least which were visited by myself. It should also be observed, that at these islands marks of cultivation were only seen in the

occasional planting of the cocoa palm, and there were no accompanying weeds.

At some coral groups, situated far to the westward of the Paumotus, and visited by the Peacock, a few additions to the above list were remarked. The two *Arums* (C. esculenta and C. macrorhiza) were unexpectedly found under cultivation at the Ellice and Kingsmill Groups; and at the Union Group, a flabellate Palm and the Gardenia. It appeared, too, that foreign seeds, accidentally drifted to the shore, were carefully planted by the natives; as was witnessed by Mr. Rich in the instance of the Hernandia.

I would note, also, that the *Tacca* was seen growing on coral, in the Balabac Passage, and again at Zanzibar; but in the Pacific, I have only found it on the high islands, where it is commonly naturalised.

c. *Anaans, or Western Paumotuans.*

After leaving the Disappointment Islands, we directed our course to the southward and westward, and the next island seen was *Taiara*. We had now learned caution; and in our rambles on shore, we looked with some anxiety for the appearance of natives. Their traces were abundantly evident, in a deserted hut, swarms of flies, the remains of a raft in the lagoon, and bundles of cocoa-nuts ready for transportation; but they were probably at that time absent from the island. An excavation was found containing fresh water, the existence of which, on the Coral Islands, seems a remarkable circumstance. The cocoa-nut does not, as some have supposed, afford an adequate substitute. The Morinda was first seen at this island.

On the following morning we reached *Raraka*, and saw the Taheitian flag, a subject of general congratulation; and for myself, I may say that never on any occasion was an emblem of civilisation more welcome. It brought visions of a watery kingdom in this much-avoided region of the globe, that should insure future safety to the mariner.

It is hardly necessary to add that we met with a friendly reception from the several families established here, including a native Taheitian missionary. All were now cleanly in their persons, and free from vermin; and we were here first struck with the orderly and respectful behaviour of the

Polynesian children. The men had their beards shaven, and were uniformly large and stout, giving evidence already of superiority of stature in the Polynesians. Their huts were very clean, and were neatly made; and there were some regular plantations of young cocoa palms. Numbers of young tern (a blackish species with pale spots) were running about the huts in a half-domesticated state, a circumstance that was not observed elsewhere.

An important change had taken place in the social condition of the human family; and the people we were now among were not permanent inhabitants of the islands on which we found them, or, at least, they were accustomed to hold intercourse with other and distant islands.

Two large sea-going canoes, which had apparently conveyed the whole party, were drawn up on the beach. Similar vessels are in use throughout the Western Paumotus, making occasional voyages to Taheiti; but their proper rendezvous appears to be at Anaa or Chain Island, which is the centre of navigation in Eastern, as Tongataboo is, in Western Polynesia. The Western Paumotuans have, in consequence, experienced the influence of the general Polynesian civilisation. Their nationality was abundantly recognised at Taheiti.

Kawaki was visible from Raraka, and, on inquiry, the natives said there were people upon it. The party from the Vincennes "did not find them, and saw but two or three cocoa palms."

The next island visited was *Aratika*, where a white flag was flying. Among some twenty inhabitants, one man could speak a few words of English; and various articles were also seen that had been derived from Europeans. We were surprised at finding here a considerable fresh-water pool. And for the first time we met with the war-conch (formed of the Triton variegatum), which is in general use among the Pacific Islands. The portraits taken by Mr. Drayton show the chequered pattern of tattooing, which seems distinctive of the Western Paumotuans.

Manhii was next visited; and some of our party walked over to the entrance of the lagoon, where some natives had established themselves. They reported, on their return, that the "chief declared himself a relative of the one-armed

chief of Raraka; and spoke also of going over to *Ahii* (an island in sight), to procure a certain kind of fish from the lagoon." We subsequently landed on Ahii, and found a grove of cocoa palms, but no appearance of inhabitants.

Rairoa, or Dean's Island, next offered its extensive outline of some sixty miles in the longest diameter; and being only in part visible as we coasted along, it presented a novel appearance. We did not land, but at one point two small canoes came off to us. *Tikehau*, an island in sight from the last, was passed chiefly during the night.

On the following morning we were awakened at an early hour to see, as it was termed, a "real island." It presented a remarkable appearance, for it was flat-topped, some two hundred and fifty feet in height, and seemingly inaccessible; the mural cliff being in many places actually undermined by the surf. The island, notwithstanding, proved to be exclusively composed of coral. It is called *Metia*, and is situated within a day's sail of Taheiti.

On coasting around in boats, it was perceived that the cliff did not everywhere rise directly out of the sea; but on one side, a narrow intervening beach afforded a landing-place. The natives assisted in drawing up the boats. They were upwards of three hundred in number, living in the midst of abundance; and we experienced from them all the kindness and hospitality attributed to the Taheitians of the olden time. At first indeed, we were disposed to class them with the Taheitians; but there were some large double canoes on the strand, insufficient, however, to receive the whole population. Several of the men could speak some words of English; and more than one of them wished to be taken on board. Their houses were at the base of the cliff; but a paved path was constructed to the summit; where we found a fertile soil, and first met with the usual objects of Polynesian cultivation.

Other islands in the Paumotu Archipelago, were subsequently visited by the Porpoise; but for the account of them, I must refer to the fourth volume of the Narrative.

d. *Other Coral Groups.*

The coral islands, subsequently visited by the Vincennes, were uninhabited; but as all these Oceanic resting-places

and their resources, claim attention, I will insert some notices of them.

I landed on *Bellinghausen* Island, which is quite small, only some three or four miles in diameter, and is situated to the westward of the Taheitian Group. No traces of natives were discovered; but the sea-birds breeding in numbers, the large fishes in the pools of the coral-shelf, and the fearlessness of the sharks in the lagoon, all betokened the absence of a general disturbing cause. On my first landing on a coral island, I was about seizing a spotted eel (Muræna), coiled in a small cavity; when Sac, our New Zealand sailor, held my hand, with a friendly warning. Here, however, some of large size did not always wait for the attack; and a bite, like the cut of a hatchet, was received by one of our men. The Cocoa palm and the Morinda were both absent; but the Pandanus was abundant.

I landed also on *Rose* Island; which is situated far westward of the preceding, and within a day's sail of the Samoa or Navigator Group. It is still smaller than Bellinghausen, although possessing an opening into the lagoon; and at high water it is chiefly submerged. The whole flora of the island was found to consist of but two species of plants; the Pisonia? forming a grove of some three or four acres; and a Portulaca, scattered about the outskirts. The grove was tenanted by myriads of sea-birds: and the tern, as they rose from beneath the low branches, might almost be taken in armfuls. Among species of different genera, each bird was observed to have but a single egg; as though the reported compact of some of the Islanders, had extended to the feathered tribes. Blocks of lava, from five to thirty pounds in weight, were met with on different parts of the reef; and it seemed difficult to account for their presence; drift-wood affording a barely possible means of conveyance. We never met with a second instance of the kind.

On the passage from the Feejee to the Hawaiian Islands, the Vincennes passed through the PHŒNIX GROUP. The first island visited was small, and was named on the charts *Gardner's* Island. On landing, I observed that the house-fly was absent, as well as the cocoa palm; and the only evidence of the visits of natives, consisted in the presence of great numbers of rats.

On the following day, a small patch of coral was discovered, and not being down on the charts, it received the name of *M'Kean's* Island. Its very insignificance rendered it formidable to the navigator. I obtained a seat in one of the boats sent to examine it, and on our way experienced the novelty of being within three miles of land, without the possibility of discerning it: for it rose very slightly above the water, and produced neither trees nor bushes, but only low-scattered herbage and tufts of grass. It was a mere roosting-place for sea-birds, and was literally crowned with them; while, as it was near sunset, others were arriving from all directions to take their stations in the throng. While we remained in the vicinity, a large shoal of porpoises came dashing along, and after frolicking about the boat, at length arranged themselves in a novel manner, with the eyes above water, gazing at the unusual spectacle. At another island of the group, a number of "black-fish" were equally inquisitive; and some apprehension was entertained, lest in their gambols, one might chance to fall upon the boat.

Some days afterwards I landed on *Hull's* Island, where the presence of cocoa palms attested the former visits of Polynesians; but in this instance the Pandanus appeared to be wanting. A Frenchman, with a party of Taheitians, had been left here "for the purpose of procuring turtle; and during the four months of their residence but one ship had visited the island."

A party from the Vincennes landed on *Enderby's* Island, which is small, and destitute of a proper lagoon. The Pandanus was again observed to be absent, and there were no large living trees; but drift-wood was found, which had possibly furnished the means of transport to the rats and lizards (Scincus). The latter animals, it should be observed, have doubtless, in many instances, accompanied the voyages of the Polynesians.

About a year afterwards, the Vincennes visited WAKE's Island, which is situated nearly midway between the Hawaiian and the Ladrone or Marian Islands. It is larger than the islands seen in the Phœnix Group, being apparently about six miles in diameter. On landing, I could find neither the cocoa palm, Pandanus, nor the house-fly; but rats and lizards were the only, and uncertain signs of

aboriginal visitors. Fishes were abundant, and in greater variety than before observed around the Coral Islands. There were no large trees, except a single dead trunk, lying prostrate.

A friend of mine once passed several months on FANNING'S Island, in company with a party of Hawaiians. Cocoa palms were abundant;* an important fact, taken in connexion with the central position of this island, in regard to the Hawaiian, Union, Kingsmill, and Marquesas Groups. Indeed, after the above examples, it would seem that few, if any, of the Tropical isles of the Pacific have escaped aboriginal discovery.

JERVIS' Island, situated to the southward of Fanning's Island, and nearly under the Equator, was visited by the Peacock. No attempt was made to land; but the island was ascertained to be "destitute of both trees and shrubs."

For an account of the inhabitants of the Union, Ellice, Tarawan or Kingsmill, and Radack Groups, which were successively visited by the Peacock, I must principally refer to the Narrative and Ethnography of the Expedition. It will be perceived that I have enumerated tribes differing materially in their customs and languages, and, in some instances, not strictly belonging to the Polynesian family; but they all dwell on coral islands, and their union here has reference to their being subjected to the same external circumstances.

At the Union or OTAFUAN GROUP, a landing was effected on the island of *Otafu*. "The cocoa palm, Pandanus, and Morinda, were all present, together with the Gardenia, the flowers of which are worn for ornament at Taheiti." Mr. Agate observed, that the inhabitants "derived their supplies of water from the rains, by means of a cavity cut in the base of the cocoa stems;" a process familiarly known also on the high islands.

At *Fakaafo*, the island on which the chief resided, Mr. Rich again observed "the four plants above-mentioned; and in addition, the flabellate palm, which is cultivated at the Samoa and Tonga Islands. A sort of spirit-house was

* In a medical point of view, it may be of interest to state, that an exclusive cocoa-nut diet was complained of, as producing a species of urethritis.

found here, and a purple-crowned yellow pigeon, which had been tamed." The apparent absence, at this group, of the use of fire, merits further inquiry: indeed, I do not remember to have seen any signs of fire at the Disappointment Islands.

Swain's Island, which is detached from the rest of the group, and is not far from the Samoa Islands, "appeared to be uninhabited; but it was covered with cocoa palms, mixed with the Pandanus."

At the Ellice or VAITUPAN GROUP, the pains taken in dressing the hair in a variety of modes, recalls the customs of the Feejeeans. An Albino also was found here, who, according to Mr. Agate, "had blue eyes, and was at first mistaken for a European:" and the circumstance deserves further notice, as albinoes seem to be of rare occurrence in the Malay race. Chequered mats, of different colours, were obtained at the Vaitupan Group; and they seem to show affinity with the manufactures of the East Indies. Wooden shark-hooks were also obtained, which may be compared with those of Penrhyn Island.

At the extensive Kingsmill or TARAWAN GROUP, according to Mr. Rich, "no large trees, except cocoa palms, were visible. The Calophyllum, however, and a branch of the mangrove, indicated a greater variety of productions than is usual at the Coral Islands:" doubtless owing to a greater continuity of surface. Mr. Rich ascertained here, "that rice-paper is manufactured from the root of Scœvola lobelia;" a fact confirmed by subsequent inquiry in the East Indies (where this common indigenous plant of the Coral Islands is likewise found). Besides the two kinds of taro, plantations of "bread-fruit" were spoken of; the bamboo was known, and likewise "mullet-ponds," as at the Hawaiian Islands. Dogs were seen, and also fowls; the latter were "not eaten, but were kept in cages for fighting." It appears, moreover, from Mr. Hale's Vocabulary, that all the introduced animals and plants have Polynesian names.

In other respects, a marked change had taken place from the customs of the Polynesians. There was a word for lying, and even for sarcasm. Divination or sorcery was also known; and the natives paid worship to the manes or spirits of their departed ancestors. The conical hat was found here, and had given its name to one of the islands of the group. A

novel use was made of the cocoa-palm, to produce a kind of molasses; and, in conformity with a common belief, these were the only islanders seen in the Pacific "who had decayed teeth." Shortsightedness was well known; and again, unlike the Polynesians, the majority of the population were of inferior stature. The limit in respect to children was here extended to three. Although there was little communication even between the different islands of the group, Mr. Hale found a traditional knowledge both of Banabe (or Ascension) in the Caroline Group, and of Samoa.

The branching shark's teeth saws, a weapon so unique and formidable in appearance, together with the defensive armour of cocoa fibre, were found at Drummond Island. The form of the cuirass is nearly the same with that of Ombay, as figured in the French Voyages. Moreover, the Tarawan paddle resembles the oar of the Persian Gulf: and we note also, that children were betrothed at an early age, and that the Pharaonic custom was observed, of naming a child after the grandfather.

No direct communication was had with the inhabitants of the extensive RADACK GROUP; but the information obtained by Mr. Hale respecting *Mille* (one of the southernmost islands), will be found of much interest. Kotzebue appears hitherto to have enjoyed the best opportunity of becoming acquainted with the Radack islanders; and I must refer to his work, and especially to the plates of Choris, who accompanied him.

PLEASANT Island is situated near the Equator, some four hundred miles west of the Tarawan Group, and a little beyond Ocean Island. The following particulars respecting its inhabitants, are extracted from a notice by T. Beckford Simpson, originally published in an Australian gazette:

"They appeared to be a very mild and well-disposed set of people, and had the appearance of being of the same stock with the natives of Ascension, which island he had formerly visited. Unlike them, however, these islanders have no tradition of their origin, or the manner their forefathers first came to the island. They have no religion of any kind, neither do they believe in a future state; but they appear to have some slight idea of an evil spirit. The population was estimated at not less than fourteen hundred,

divided into seven or eight clans, each governed by a chief; and there is a queen, who presides over the whole. It is her duty to decide all disputes among the chiefs; and in her also is vested the sovereign prerogative of making peace or war among the different clans. They have canoes. Their food consists chiefly of cocoa-nuts, the fruit of another description of palm, and fish, which are not very numerous. They have also a few very small fowls. The dress of the women consisted of a piece of native cloth round the waist; and the men wore the maro, made of dried grass. Several Europeans of doubtful character were residing on the island, and one who was now gone, had deliberately murdered eleven of his associates."

TAHEITI.

Leaving the Coral Islands, I shall next speak of the Polynesians of the high and rocky groups. The transition is truly remarkable, independently of the release from the straitened circumstances heretofore surrounding the human family. We had enjoyed at Metia a slight introduction to the new order of things; and on the following day (in September, 1839), the Vincennes reached Taheiti, where we remained fourteen days.

Among the first subjects to attract notice, was the ready and cheerful salutation which everywhere met us on our rambles; the attention to cleanliness in the details of domestic economy; the large, airy, elliptical houses, so admirably adapted to the climate; and yet in all, the wide difference from the customs of Europeans.

A journey across the island having been projected, we asked our guides about the ascent of Oroena, the central mountain or most elevated point of the island. They replied with great simplicity, but, as it appeared subsequently, with a good deal of truth: "No Taheiti man had ever been able to get there, and therefore a white man could not go." They appeared to have no measurements for short distances or short periods of time, corresponding to a mile or an hour; but always pointed to the place in the heavens where the sun would be when we should arrive at the proposed station. The "Queen" had groves of cocoa palms at intervals along the road, or, in other words, these were reserved for the use

of travellers. Other cocoa palms were "taboo," and bore a mark of private reservation; for this regulation has the advantage over the "law" of civilised nations, of being universally respected.

The Taheitians have been found to excel in the culinary art; and their mode of cooking has been often described. Our repast was served up on leaves, a number being handed to each person, in lieu of a plate. There was refinement, we found, in eating with the fingers; and for the want of practice, our party acquitted themselves but awkwardly. A cocoa-nut shell containing water, afterwards formed a substitute for finger-bowls. In another particular, we equally found ourselves at fault; for having always worn clothes, and been accustomed to the use of chairs, it was impossible to assume postures (sometimes, it is true, not according with our ideas of grace) in which we saw the natives resting easily. This greater suppleness of limb gave them many advantages over us; and the most active of our guides, after lashing his heels together, would ascend a cocoa palm almost as rapidly as we would have walked over the same horizontal distance.

After leaving the coast, our way lay up the valley of a mountain torrent, which we were obliged to ford frequently, and sometimes to travel in its bed. We were exposed for some days to frequent and heavy rains, and soon began to envy the naked condition of the natives, who became dry in a few moments, whereas our clothing once wet, remained so for hours. This circumstance led to some views on the subject of clothing, particularly in tropical climates, which had not before occurred to me. Man not being created an aquatic animal, his skin may not with impunity be exposed to perpetual moisture, whether directly applied or arising from perspiration retained by dress. Indeed, we subsequently heard complaints among Polynesians, that "they never had colds until they began wearing clothes." At the same time, we ourselves could not with impunity have laid clothing aside: the skin with us was in an unnatural condition, oversensitive, from the exclusion as well of light as of air, or, according to a term used by naturalists, "etiolated." The importance to health, therefore, of keeping the skin *dry*, does not appear to have hitherto received due attention.

Near the head of the valley, we unexpectedly found a family residing, and at a point below we observed one or two abandoned houses; but with these exceptions, the Interior appeared to be wholly uninhabited. We next traversed a ridge of about twenty-seven hundred feet in elevation, were ferried over the lake on a raft of wild banana stems, and on reaching the opposite coast, learned to our surprise, that "we were the first white men who had ever crossed the island of Taheiti." The pass, indeed, is very seldom used by the natives, who confine themselves to the coast, making limited excursions along the mountain ridges, to procure the fruit of the "fehi," or wild banana. According to an intelligent chief, "the wild people who formerly inhabited Taheiti were accustomed to go all over the mountains; but there was no one now who knew the way." The gradual abandonment of the Interior was of so recent a date as to have been in part witnessed by the missionaries; and it was stated by them, that even "within a few years, some natives made their appearance, who were quite unaware of the changes brought about by the residence of Europeans."

Continuing our journey, we completed the circuit of the larger section of the island by the well-known and indeed only route—that along the coast. An innovation on ancient habits was observed, in the joint ownership of a large sugar plantation by an association of natives. "Landed property was said to be at the bottom of most of the quarrels and difficulties among the native population;" and on the authority of the chief above mentioned, "it was always the principal cause of war." The missionaries, however, spoke of "a spirit of emulation between the different districts, that showed itself in various modes after the cessation of the wars; and at one time *cock-fighting** was much practised." The Guava plant has now overrun much of the productive soil, and is commonly complained of, as "having ruined the island." Yet, according to the missionaries, "the population, for the last thirty years, did not appear to have diminished."

* We note here an apparent connection with the occurrence of the same kind of amusement at the Tarawan Group, and with its unusual prevalence at the Philippine Islands.

A second mountain excursion was undertaken, and we procured the services of a native named Veheori. This man provided himself with a rope, and took with him his son, for the purpose, as he said, "of teaching him the way to the mountains, as after a while he should himself die, and then nobody would know." It appeared, however, in the sequel, that another reason had entered into his views, as he "owned a tract of land" at the limit of our excursion. We started at an early hour, and in the afternoon we had attained an elevation of between four and five thousand feet, along the crest of a frightful knife-shaped ridge, such as I have only seen in the island of Taheiti. We here looked upon the wild and romantic scenery of the Interior, from a new point of view.

Amidst the luxuriance of the forest, immense numbers of the radiating crowns of the *fehi* banana were conspicuous in the distance. I had previously, from below, wondered at the presence of these groves in situations that seemed inaccessible to human foot. For the plant is multiplied only by suckers, and the natives (those at least of the existing generation) take no part in disseminating it, although the green fruit, which becomes farinaceous when cooked, contributes largely to their sustenance. The fehi differs from the common banana in having a simple raceme, and the substitution at Samoa of a second variety may be regarded as proof that the species was originally foreign to both places. Some mystery therefore seems connected with this plant, and the period and mode of its introduction into Taheiti.

Our time being limited, perhaps fortunately, it was now necessary to think about returning, and Veheori led us to a point, where, much to our surprise, the descent was practicable. On the following day, we returned midway along the flank of the ridge, and deriving assistance only once from the rope, made our final exit by the valley below.

In all my subsequent experience, I have never met with a people so serviceable to the traveller as the Taheitians; for they seemed in fact to command at all times the principal conveniences of life. Half an hour of daylight was sufficient for building a house, of the stems and leaves of the fehi banana, and fire was produced by rubbing sticks. In

one place, the running water was deeply sunk among stones, but by working in banana leaves they brought it to the surface. The chase of eels (Anguilla), which in these dripping mountains become almost amphibious, offered another instance of their ingenuity. They also tore off with their teeth the fibrous bark of the "purau" (Hibiscus tiliaceus), and a moment after, applied it to noosing small fish. If one was sent for fruit, he would usually make a basket on the way, by plaiting the segments of a cocoa-nut leaf. A mat was manufactured with almost equal ease. Clothing was always at hand, and a banana leaf served for an umbrella; or in fine weather they would weave garlands of flowers. Tumblers and bottles were supplied by single joints of the bamboo, and casks or buckets by the long stems; and whether we asked for a hatchet, knife, spoon, toothbrush, or wash-basin, we never found our guides at fault.

The women, on meeting a near relation after a long absence, express their emotion by protracted weeping; and we witnessed the commencement of such an exhibition, on the occasion of one of our guides falling in with his mother. Among the Taheitians, conversation, it appears, is too open and ingenuous for European taste; but, in the absence of guile and false refinement, it may well be supposed there is less to corrupt the heart, than in our self-styled "civilised" society. The Taheitians measure long periods of time by "moons," or lunations; and they have a calendar, which will be hereafter noticed. We often witnessed the universal familiarity with the plants and other productions of the island; and also, their more minute subdivision of the external parts of the human frame, than is known to our sculptors and anatomists. It appears from Forster, that they aboriginally held some commerce "with Taha, Borabora, and the Low coral islands; and they procured red feathers from Whennuarora, ten days' sail to the westward." This last-named place is one of the Feejee Islands.

In their personal appearance, I could find no difference from that of the Paumotuans. I saw little resemblance to the Mongolians, but some individuals might in the United States have been mistaken for mulattoes: the hair was not

universally black, but in some instances had a russet tinge, as was subsequently observed at Samoa and Tonga. Albinoes were spoken of, but I did not see any. Spectacles were occasionally worn by old people. Œdematous legs were quite common, perhaps attributable, in some measure, to constant wading on the reefs. The skin was seldom entirely free from scars, like the vestiges of imposthumes. Several instances were observed of the loss of the nose by ulceration, and in one mixed family, the disease in the European father was transmitted to the children.

The Vincennes touched at *Aimeo;* situated about twelve miles from Taheiti, and forming a natural dependence of that island. It is excessively rugged, and some of its mountain ridges are even perforated. On ascending one of them, I again met with fehi groves.

The Vincennes afterwards passed among the other high islands of the group, and we saw Huaheine, Tahaa, and Borabora, but we had no intercourse with the inhabitants, neither were we at any time very near the land.

SAMOA.

Passing Bellinghausen and Rose, two coral islands already noticed, we on the 8th of October reached *Manua*, the summit of which was at the time concealed by clouds. Together with the neighbouring double islet, it is somewhat detached from the remainder of the group, and although the distance is only about sixty miles, there appears to be very little intercourse. The inhabitants have always been somewhat noted for their warlike character, but we found them in every respect nationally identical with the other Samoans.

The name of "Navigator Islands" was suggested to the French discoverer, by the graceful shape and superior workmanship of the canoes. These are formed of irregular pieces, sewed together by means of a raised interior margin, a construction which, at these islands, is by no means a matter of necessity. The outrigger is placed nearer than usual to the body of the canoe, so that they overset rather easily, an inconvenience which however is not much regarded by the natives.

We landed on Manua, and met with a friendly reception,

but the majority of persons seen were observed to be women. The usual Samoan costume consists of a cincture of the leaves of the Ti plant (Dracœna), divided into slips, so as to form fringe: the yellow-leaved variety makes a somewhat gaudy appearance; and indeed this style of dress seems well adapted to set off a fine figure in either sex. Hostilities had but recently ceased between the two districts of this small island.

A New Zealander applied to us for a writing-pencil, and called himself a "missionary." We did not meet with another instance of this profession among his countrymen, nor among the Hawaiians, although they are equally scattered over the Pacific. It is chiefly to Taheitians, that the world is indebted for the great change recently effected throughout Polynesia.

I here joined the Porpoise; and leaving Manua, we directed our course to the three principal islands of the group, which are in closer proximity to each other, and the inhabitants of which are accustomed to constant intercourse. As we approached *Upolu*, a native was received on board from a canoe. He was greatly delighted with a musical-box; and when it happened to run down, as one of our party commenced playing on a different instrument, he said, as it appeared, "it had stopped to listen."

We remained a day at Apia; where I was at once struck with the inferiority of the Samoan houses, as compared with those of Taheiti. In the aspect of the population, I could find no particular difference. I saw the same large men, and occasionally individuals of truly Herculean proportions. The "age of heroes" still exists in this quarter of the globe, and I am inclined to think, the Homeric heroes would probably have suffered by a comparison with some of the men of Samoa and Tongataboo.

The first Polynesian with frizzled hair was seen at Manua, and other instances occurred, both in the Samoan Group and at Tongataboo. Except in the hair, these individuals did not differ from the surrounding natives; and the peculiarity is perhaps attributable in part to art, to an imitation of the Feejeeans.

Mr. Couthouy, during his visit to Upolu, obtained some information respecting a crocodile, believed by the natives

to exist in one of the streams. A species of crocodile (C. biporcatus) is known to occur as far east as New Ireland, and Mariner relates an instance of a straggler having reached the Feejee Islands. It seems possible, then, that another straggler may have reached Samoa. Some apparent connexion will be perceived with the "image of a large lizard formerly placed on one of the morais" at Taheiti; and also with the fact that "crocodiles are still held in veneration at Timor."

Savaii, the largest and loftiest island of the group, was next visited. Besides the philological identity in name, it has local points of resemblance with the widely separated Hawaii, and is indeed the only other island I have examined, that had been overspread with lava streams. The land rises everywhere with a very gradual and regular slope towards the broad central summit, which is almost constantly concealed by clouds. Notwithstanding the profuse rains, I saw no signs of streams; but the water, sinking through the porous lava, gushes out in copious springs at the margin of the sea. Owing apparently to this absence of streams, there are no large openings through the coral reef: and vessels being thus excluded, very little change had taken place in the primitive manners of the inhabitants.

Two boats landed at Sapapali; and on reaching the English mission house, a number of the natives collected around us, having "never before seen so many White men." We learned that remarks were made complimentary to the good looks of our party; and that some declared "they would like to go to England, since it contained so many handsome people." In company with Lieut. Maury, I remained on shore for nine days; but as time at the outset was a matter of uncertainty, my first excursion was directed into the Interior.

Six natives were procured as guides, but before proceeding further, it was found necessary to obtain leave of the "keeper of the forest;" a functionary, whose existence was now for the first time brought to light, and who, as will be seen presently, holds an important office in times of scarcity. This man joined our party, and proved a somewhat more efficient woodsman than the others; for I soon found a wide difference between them and the Taheitians.

I did not get more than eight miles from the coast, rather, however, from the want of an interpreter, than from any natural obstacles. The weather, indeed, was rainy; but the forest was not seriously incumbered with undergrowth, and was composed of loftier trees than I have seen in the other Pacific Islands. The Interior appeared to be not only uninhabited, but unvisited; an unexpected circumstance in this quarter of the globe.

On the second day out, I was abandoned by most of my guides; but in the evening they re-assembled at the camp. The principal motive which had induced them to offer their services was now apparent, as I perceived that each man had loaded himself with wild yams: (a species not seen elsewhere, which yields a profusion of roots, and forms a safeguard against famine.) One of my astute companions proved to be the elder brother in a large family, and the father being deceased, the duty devolved upon him "of bringing in all the provisions; while, as in similar instances, he was exposed to jeers in return for his trouble."

A Samoa pillow had been prepared for my supposed convenience. The model was subsequently found to be Feejeean, somewhat varied and mitigated by the substitution of bamboo for solid wood. This imitation deserves attention, for the physical reason which gave rise to the custom does not exist in Polynesians.

On returning to the coast, the sound produced by the beating of tapa gave the first indication of the vicinity of habitations. This is the constant occupation of the women; and it is a discouraging one, for the article when finished is very frail, and is soon worn out, or destroyed by wet. It more resembles paper than cloth, and does not form very graceful drapery. The paints used for delineating figures on it are polished black and dull red; the latter consisting of red earth "from the mountains."

Our place of residence was always surrounded by a body of natives, and it was impossible to move about without a train of both men and boys; never indeed offering the slightest molestation, but from motives of curiosity, watching the least of our movements. Small children were usually terrified on seeing us; but the larger boys would keep pace for miles. Nothing showed a greater difference

from our own customs than to see well-grown young women joining with the rest, with unconfined limbs, and frolicsome as any of their associates.

A small house built on poles proved to have been the work of the boys of the village, numbers of whom slept there at night. This appeared to have been only a freak; at least I heard nothing of any exclusion of the bachelors, such as is stated to exist further west, in the vicinity of the East Indies.

I was present at an interview with Malietoa, the greatest of the Samoan chiefs; a highly intelligent and venerable old man, extremely courteous and dignified in his deportment. According to the Rev. Mr. Hardie, many of the natives are not only "intelligent, but really well-informed men. He had often heard them express surprise at the ignorance of sailors; asking, how it was possible that men like these had been brought up in a civilised country." At the time of our visit, paper for writing formed one of the best articles of traffic with Samoa, a circumstance which seemed anomalous in a people as yet unacquainted with the use of money.

"Their former wars were sometimes brought on by murders, and these were occasionally committed by designing men for that special purpose. Another cause was the abduction of women. Sometimes women, from some dissatisfaction, would, with the help of two dry cocoa-nuts, swim across the channel between Upolu and Savaii." A person was pointed out to me who had "remained three days in the water, until the abdomen softened."

The natives of the vicinity of Sapapali had all been converted, and I saw no traces of their former superstitions. A resident White spoke of a "collection of remarkably crooked sticks having been formerly kept near one of the Spirit-houses."

The property at our place of residence was regarded as safe, so far as the people of the island were concerned; but some apprehensions were expressed by the natives concerning a stranger, a Hawaiian, from whom however we did not suffer loss. On the day of our departure, we received a visit from several of the belles of the village, arrayed in their best attire, and dripping with scented oil; but our

attendants soon drove them away, considering with some truth that the presents they might receive would be so much abstracted from their own just dues. I had formed some acquaintances among this people, a community that dwell together and love one another, and on parting, I felt regrets not experienced at any other place we visited.

The ten days spent at the island of *Tutuila* were not marked by any particular incident; except the arrival of three canoes from Upolu, with streamers flying, and the men singing or rather shouting in chorus. They had been expected, from the wind having recently changed to the westward; an occurrence, it was said, that rarely takes place without bringing visitors. This practice of visiting had been discouraged by the missionaries; formerly it was much more frequent, so that some individuals would quarter themselves altogether on the hospitality of the different districts.

In one respect the Western differ remarkably from the Eastern Polynesians; they are by no means a licentious people. Possibly something may be due to the indirect influence of the neighbouring Feejeeans; but there was every appearance at Samoa, of this social condition being spontaneous and directly conformable to nature. What will be the result of European intercourse, after the secret shall be made known, that it is possible to hoard up property or to change its form at will, remains to be developed.

Ophthalmia, resulting usually in the loss of but a single eye, was extremely common in both young and aged persons; and I have never visited any other place where there were so many humpbacks. The œdematous leg was again common; but I saw only a single instance, and heard of but one more, of ulceration of the nose.

The implements and manufactures of the Samoa Islands may readily be distinguished by the style of workmanship. Rugs which are made of vegetable fibre, and sometimes stained yellow, seem peculiar to this group. The javelins are very rudely made, though the barbs give them a formidable appearance. Once only I saw the bow in use; a native, in the evening, stealthily seeking to destroy thereby a large bat (Pteropus), which was making free with his

bread-fruit. Some arrows of a novel construction were procured; intended, it was said, for "bringing pigeons to the ground alive without injuring them."

NEW ZEALAND.

Before proceeding with the account of the Tropical Polynesians, I have concluded to follow the order of the Voyage; which next conducts us to the Austral division of the Polynesian family.

In company with others of my associates, I took passage at Sidney in a merchant vessel, and we reached the Bay of Islands on the 24th of February, 1840. We remained in New Zealand about six weeks, until the return of the Vincennes from the Antarctic cruise.

Nothing so much surprises the European emigrant as the physical difference between the natives of Australia and New Zealand, two neighbouring regions situated between the same parallels of latitude: the change in habits is likewise radical. The remark may be extended to the other territories of the Southern Hemisphere which are remotely detached, and are noted for their remarkable yet dissimilar natural productions: for it will be difficult to select from the human family four nations more unlike than the Australians, Austral Polynesians, Fuegians, and Hottentots. It will further be observed that they severally pursue the precise four ultimate methods of procuring sustenance, and may be classed respectively, as hunting, agricultural, piscatorial and pastoral tribes.

The "hunter state" indeed is impossible in New Zealand from the absence of game. By an anomalous distribution of the vegetation, the open grounds of this extensive country are almost exclusively covered with fern. There is no pasturage for grazing animals; neither, on the other hand, have any woodland quadrupeds been allotted to the forests.

Although fish enters largely into the diet of the New Zealanders, they are not an exclusively maritime people like the piscatorial tribes of America, but they are diffused throughout the interior country. Moreover, what is a little remarkable in the Malay race, they rather avoid the open

sea; holding, nevertheless, occasional communication along the coast.

The geographical position and chilly climate, unsuited to Tropical plants, deprived, of course, the first Polynesian emigrants of their accustomed agricultural resources. Forced, therefore, to live on the spontaneous products of the new country, (and principally on fern-root and fish), it might be supposed that their descendants would have relapsed into a ruder condition. We do not, however, find them at all behind the other Polynesians, in arts, knowledge, or acquirements.

But to go into some seeming exceptions: a few Polynesian plants have actually proved hardy enough to withstand the New Zealand climate; and Cook found here "coccos or eddas, sweet-potatoes, and some gourds." Of the first-named plant, or the *taro*, I sometimes observed a few stocks near the native houses; but it is of no importance as an esculent, since the root does not arrive at perfection. I observed, also, the *gourd* (Lagenaria); but I do not remember to have anywhere seen its fruit eaten by Polynesians. The *batatas*, or sweet-potato, is really of importance as an esculent, at least in the northern districts, although its cultivation appears to have been, notwithstanding, limited. Its presence, however, was not coeval with the first settlement of New Zealand, but the natives have preserved a distinct account of its introduction. The traditionary "canoe, formed of separate pieces," describes precisely the model used at Samoa: and further confirmation of a Samoan source was offered by the small finger-like variety of this root, which we met with only at the two places; while yet another concurrent tradition made this "the only kind formerly known in New Zealand."

A fourth esculent, the "Cape gooseberry," (Physalis edulis), may perhaps be added, as it had every appearance of being of aboriginal introduction. It is, however, only a weed, abundantly naturalised in waste places; and so it is in the other Polynesian islands, where I have never seen it regularly cultivated. On now comparing the whole list of Polynesian useful plants, it will perhaps be found that these four alone are capable of enduring the New Zealand climate.

The aboriginal absence of the domestic animals of the

Tropical Polynesians (the pig, the dog, and the domestic fowl,) seems more difficult of explanation. It is true, in regard to swine, there appears to be a dearth of sustenance: even at the present day they have not run wild, as at Taheiti, but they continue the inseparable companions of the New Zealand household, and are called to partake of the family meals. I am not sure that the dog was altogether unknown to the aboriginal New Zealanders.

The absence of the outrigger was unexpected, and may possibly be connected with the greater roughness of the Southern ocean. In the management of a canoe or boat, the natives by no means fall behind their Tropical brethren, as we had many opportunities of witnessing, even in the instance of the pilot at Sidney, who had selected New Zealanders for the crew of his open boat. Unlike the Tropical Polynesians, they were not seen bathing, a circumstance attributed to the coolness of the water, but they are otherwise less cleanly in all their habits. Their huts, too, are very small and close, built of bundles of "rapoo," (Typha), and roofed usually with leaves of the wild palm.

We now met with stockaded or fortified villages, which are unknown in the rest of Polynesia, excepting only at Tongataboo, where the usage had been derived directly from the Feejeeans. Their presence offers an index to the political condition of New Zealand, for there is no approach to a centralising of authority, as in other parts of Polynesia. It was said to be impossible to hire natives for any distant journey, as "they would not enter districts where their relatives had been formerly killed;" and by their method of computing relationship, families are rather extensively ramified. Even the Bay of Islands was districted, a circumstance which had the effect of preventing many articles from being brought to us for sale.

The New Zealanders have always borne a warlike character; and I was, therefore, much surprised at the inefficiency of their weapons. Besides the stone mace, their principal one is a straight sword-like club, which is wielded with both hands. This is a remarkable change from the weapons of the Tropical Polynesians; for the javelin appears to be unknown, likewise the bow, and, according to Mr. Hale, the sling. Their wars, indeed, do not appear to have ever been

very bloody; and, notwithstanding the eagerness manifested in seeking possession of muskets, these had been used, for the most part, at extravagant distances. The Bay of Islands, two years previously, had been the seat of war. "Persons from distant clans were attracted to the spot, and the parties on their arrival would divide to the right and left, brothers, and other members of the same family, often taking opposite sides. On the restoration of peace, Pomare's tribe, having killed many of the Kororarika people, gave their opponents a tract of land by way of compensation.

The soil was said "to be held by the chiefs, although the consent of each member of the tribe was necessary to a sale." It appears that in the alleged sales to Europeans, the natives have not understood that they were alienating their lands absolutely; nor, if I am rightly informed, would the European view of such transactions be admitted among other Polynesians.

Tattooing is incised, and is a much more painful operation than in the rest of Polynesia. The quantity of markings about the face seemed to be very much in proportion to the rank of the individual; each chief, however, having some variation in the pattern. It was said that "in signing a document the chiefs trace this pattern on the paper, such a signature being readily recognised by all the natives who have ever seen the individual." This was the nearest approach to writing that I found among the Polynesians, and the practice appeared to be quite unknown elsewhere.

Instances of the various effect of the taboo were noted. At one village an aged man had "tabooed himself, and, in consequence, he could not quit the spot of ground he had selected." At another village we found a large hog tabooed, it having been given to an aged female. On kindling a fire it was taboo for one of our guides to light his pipe by it, and he requested us to strike a fresh light for him. A deserted camp was tabooed, as it was a station to which invalid natives sometimes resorted. And, lastly, we were told that on the occasion of some difficulty with the Europeans, Pomare, as an act of vengeance, "tabooed the fish in the Bay."

The productions of New Zealand have all received native names, and they appeared to be universally known, as in

Tropical Polynesia. According to Nicholas, the New Zealanders "have divided the stars into constellations, and they make inquiries when certain stars will make their appearance." The custom of touching noses, and never the lips, they have in common with the other Polynesians and the Feejeeans.

The New Zealand manufactures show skill at least equalling that of their Tropical brethren; although, in most instances, it has been necessary to employ different materials. The manufacture of tapa is unknown; and, indeed, we saw no genuine Urticaceous plants. Woven mantles of the New Zealand flax (Phormium tenax) are substituted by the men; while the women wear a broad cincture, somewhat like a rug. The handle of the sword-like clubs usually has a tuft of hair, the use of which might not readily be divined: it serves in travelling, to protect the hand against the roughness of the fern.

On the route to Hokianga lived a chief of bad character, who was in the practice of laying European travellers under contribution. I enjoyed his hospitality on the way out, but the denouement was reserved for my return, in the form of a sale. From other natives I experienced some disinterested and delicately-tendered acts of kindness, that, considering the general character of the New Zealanders, were quite unexpected.

"I was assured that every part of the Northern island is intersected with paths, and that the Interior had all been traversed by Europeans." Notwithstanding the introduction of new means of subsistence, (domestic animals, the common potato, maize, and peaches), it was generally conceded that the population around the Bay of Islands had materially diminished. Children were unusually rare, as is generally observed wherever Polynesians have come much in contact with Europeans.

The New Zealanders are ready enough to enter into the European system of civilisation, and adopt the arts and fashions of the Whites; but, under the new order of things, they have been found to possess the failing of extreme covetousness. They are, besides, apt to be morose and discontented, and not very scrupulous in adhering to their bargains. They have not the amiable temperament of the

Tropical Polynesians, who are more general favourites with European residents. Sac, our sailor-chief, did not conceal his disgust at the treatment he received from his former neighbours, and made up his mind to spend his earnings within the Tropics. It was stated, also, that a "party of New Zealanders, tired of the disturbances at home, once entertained the idea of forming a colony in New South Wales, in order that they might enjoy the benefit of regular laws."

It is usual to represent the New Zealanders with a peculiar cast of countenance, and especially with the nose more prominent than in other Polynesians. It is true the cheeks seemed in general thinner, and the frame not so well filled out, (owing, perhaps, in some measure, to the scarcity and inferior quality of the food); and I once met with an assemblage of very rugged-looking men. On the whole, it appeared to me, that there was some optical illusion arising from the peculiar style of tattooing; for, in the countenances that were mostly free from these marks, I saw only the same series of expressions as at Taheiti and Samoa. In stature, however, the New Zealanders were inferior to the inhabitants of those places, and they did not, on the average, appear to exceed Europeans.

The set of diseases previously noticed as prevailing among the Tropical Polynesians, appeared to be now, for the most part, wanting. I saw neither humpbacks, dropsical leg, nor any instance of ulceration of the nose; neither, indeed, was ophthalmia frequent, though I sometimes remarked defects in the eye.

The Vincennes left New Zealand on the 6th of April; and on the 14th we obtained a distant view of *Sunday* Island, which is high and rocky, but of limited extent, and which, according to report, is inhabited only by a small party of Europeans.

TONGATABOO.

On the 22nd, having re-entered the Tropics, we were among the scattered Tonga Group. *Eoa* was first seen, a continuous lump of land, "about six hundred feet in elevation, and, according to report, the highest island of the group, except perhaps the active volcano of Tofooa." The

light green appearance of its surface was stated to be owing to "clearings and yam-patches;" and with the glass we could distinguish scattered Casuarina trees (iron-wood or club-wood), but no huts, and only a single native on the beach.

Politically, Eoa forms an appendage of the neighbouring larger island of *Tongataboo*, which is of very dissimilar aspect, and consists of a low level surface of coral. The "Sacred Tonga," for that is the meaning of the name, has long exercised, and may probably continue to exercise, important influence in Polynesian affairs.

The soil now poured forth its fruits in abundance, and the foliage had resumed the freshness of eternal youth; but this transition was not more striking than the moral change, from the morose and selfish New Zealander to the free and open-hearted Polynesian of the tropics. We looked with pleasure on the numerous children, the lively and good-humoured countenances, the fulness of cheek, the well-turned limbs, and the superior development of frame. In addition to the usual costume, the men were observed to have their faces gaudily painted with various colours; and some wore a band of yellow flowers over the forehead, or fillets of dried leaves around the limbs and shoulders. The gay appearance was the "pomp and circumstance" of war.

The peculiar curved club, usually carried on the shoulder, was evidently the national weapon. At the strand, reinforcements were arriving in large double canoes, from the more remote islands of the group. Several of the strangers at once recognised the Vincennes, although disguised by an additional deck since they had seen her at Vavao: and on getting further acquainted with the crowd on shore, all the principal branches of the Polynesian family were found to be represented.

The war had been precipitated through the indiscreet zeal of one of the European missionaries, and had "lasted for nearly a year; but the recent arrival of 'King George,' from the other division of the group, with a body of several hundred warriors," promised to bring it to a conclusion. This state of things was unfavourable to the pursuits of the naturalist; and as strategies of war were not unknown, and an act of treachery had recently taken place, our walks were necessarily very much circumscribed.

My principal excursion was made in a canoe to the heathen village of Moo, situated near the centre of the island, and at the head of the inlet or lagoon. It was fortified after a plan evidently borrowed from the Feejeeans, being surrounded by a ditch, and having low gateways strongly built of logs; but the greater part of the wall consisted only of wicker-work of small sugar-cane. Secondary enclosures of wicker-work divided the interior of the town, and formed regular streets.

The chief, Faatu, received our party with great dignity and politeness, in the only house that in size and neatness approached those of Taheiti. In the traffic for provisions which ensued, he was observed to take no other part than occasionally to give directions for the bringing of additional supplies. It appeared that "he and his people were regarded rather as neutral in the present difficulties, and were not much disturbed." In the course of conversation he stated, that "he was willing to have a missionary reside at the village, and for such persons to follow his instructions as might choose to do so; but it could not be expected that all should change their customs at once." A resident White remarked, "that the heathen were less inclined to fight than the converted natives;" and there were other circumstances that abundantly indicated the aggressing party.

I was surprised at the number of individuals who could speak a little English, especially as it had not been acquired by serving on board vessels. One man joined me while walking about the plantations, and pointed out the kinds of soil that were favourable or otherwise for the culture of bananas; though, for my own part, I was unable to perceive the difference. While questioning him on the subject of tattooing, I accidentally touched his knee on the inner side: his countenance at once changed, and he rejoined, "You are a very saucy man."

An islet near the anchorage was regarded as neutral ground; and, notwithstanding Faatu's alleged position, our canoe-men took refuge there for the night, regarding the main shore as unsafe. I have before spoken of a difference in social relations between the Eastern and Western Polynesians: and many of the Tonga women, who had attained full growth, were found on inquiry to be unmarried. The

same islet was frequented by the women of both contending parties; and in reference to the above subject, a European resident used these words: "No amount of property would here avail; for the reason that there is no one present to exercise control over them."

The natives of Tongataboo, unlike the other Tropical Polynesians, were observed to avoid the water, on account, it was said, of the "numbers and voracity of the sharks." Many of the women had lost the little finger of one hand, a custom apparently derived from the Feejeeans, and which is discontinued in converted families. A portion only of the men were tattooed; another circumstance attributable perhaps to the example of their Feejee neighbours. The markings, when present, were chiefly confined to the thighs, as with the Samoans. The houses, too, were much like the Samoan, except in the use of wicker-work of the small-stemmed sugar-cane. An explanation of the plan of a European house, "with its separate floors, and as high as a cocoa palm," excited some merriment.

Individuals with frizzled hair were numerous, presenting otherwise no difference in feature or complexion from the rest of the population, and no appearance of mixed descent. I could not learn with certainty that the peculiarity was the work of art; and, indeed, frizzled hair was said "to be not esteemed." My informant further stated, that the preparation of lime, here first seen applied to the hair of Polynesians, "was for the purpose of making it stand upright." These statements, however, are not irreconcilable with Feejee customs; and we subsequently met with some unequivocal imitations. The confusion in the published accounts of the population of the more western groups is, perhaps, in part attributable to this artificial mode of dressing the hair.

I had not much opportunity of observing the prevailing diseases. Humpbacks were common, but the proportion was less than at Samoa; and I met with one instance of the loss of the nose. One of the chiefs, Faatu, offered the first Polynesian example of corpulency.

With regard to manufactures, the gathering of people from different quarters had brought together a great many articles of foreign make. We obtained a variety of Feejee war-clubs; and, indeed, the favourite curved Tonga club

appears to have been copied from a Feejee model. We noticed two new canoes, built of separate pieces; but the presence of some Samoans afforded a ready explanation of the circumstance; and the other small canoes were excavated from a single trunk. The mode of propulsion, by vertical sculling, had also been introduced from the Feejee Islands.

Excluding articles of foreign or mixed origin, it may not be an easy task to point out the proper Tonga style of workmanship. The superior finish, over other Polynesian manufactures, is evidently attributable to Feejee schooling. I would remark, however, that wicker-work was employed more extensively than among the Feejeeans; and that the large fans of a single palm-leaf, used by the Tonga women, were not met with elsewhere: neither, indeed, were the canoe-houses, which on a smaller scale resembled the ship-houses at our navy yards.

The sea-going canoe, which is double, seems to be of genuine Tonga model: though the circumstance that these canoes are occasionally met with at the Feejee Islands has led to some confusion. It appears, indeed, from the observation of traders, that they are all built "at the Feejee Islands; but by Tonga people alone, who make visits of several years' duration, for this special purpose."

This, then, seems the foundation of the intercourse which has long existed between the two groups; and, as the Feejeeans are furthest advanced in the arts, the Tonga people undergo a species of education, and have even improved their knowledge of maritime affairs. The result, in other respects, has been humorously compared to the advantages accruing to our own young men from a visit to Europe.

From Tongataboo, the vessels of the squadron proceeded to the FEEJEE ISLANDS: but I did not myself go to any of the outer islets where the Tonga people build their canoes. At the various points visited on the two principal islands, I met with but one Polynesian (excepting those introduced by Europeans at Rewa and Muthuata); this was a woman, seen at Mbua Bay, and the very fact of her presence implied a tragedy.

On the occasion of Tanoa's visit to the Vincennes, I remarked that the royal canoe exceeded in dimensions the accompanying sea-going Tonga canoe; and that the latter

contained among the crew three or four Feejeeans. It was observed also, with some surprise, that although the Tonga men appear smooth-chinned at home, many had here managed to foster considerable beards, in imitation of the fashion of the new country. During the interview, Tubou-totai, the Tonga chief acted as "secretary," or mouth-piece to Tanoa. His advice on various occasions, and general influence with Tanoa, were much distrusted by the European residents. They, however, asserted "that he was the rightful king of Tonga, though now excluded through the management of King George;" and indeed, the existing state of affairs in the Tonga Group was evidently favourable to a designing aspirant. Tubou-totai, although there were no external indications, was known to be partly of Feejee descent, and when it is considered that "royal blood" is counted by the female line throughout the Pacific islands, the fact will be found to have further interest.

In conclusion, I would refer to the work of Mariner, which, although seeming like a romance, rather than a narrative of the realities of life, was universally regarded by the missionaries as strictly and remarkably accurate. Our own experience was in every respect confirmatory, even to his account of the Feejee Islands, which, it should be observed, was entirely derived from Polynesian testimony. In personal character, the Polynesian appears to advantage over the Feejeean, and the men of Tonga, may probably be regarded as the most splendid set of "barbarians" at present in existence.

THE HAWAIIAN ISLANDS.

After leaving the Feejee Islands, the Vincennes sailed through the Phœnix coral group, and in September, 1840, arrived at the Hawaiian or Sandwich Islands. This group is situated far to the northward of the other Polynesian islands, and is remote from other lands, holding a singularly central position in the North Pacific. My stay was a prolonged one, of seven months (including the duration of the second visit); but my remarks will be restricted, especially as so much has already been published about these islands by various intelligent observers.

After the fertility of the other Polynesian islands, I was

unprepared for the desert-like appearance of *Oahu*, a considerable portion of the soil being absolutely devoid of vegetation. It is true, we had approached one of the most arid districts, though, throughout the group, the proportion of soil capable of cultivation is extremely limited. The recent introduction of the use of sun-dried brick on the leeward side of the islands affords sufficient proof of this aridity.

There exists, however, at the Hawaiian Group, a singular epitome of climates, with a very local distribution of the rains. The windward side of the islands is in some places subject to excessive moisture, and even one portion of Honolulu, being more open to the valley, receives showers that do not extend to the remainder of the town. The difference in climate from Middle Polynesia is further illustrated by the orange succeeding only on Tauai, and, in a single district; by the guava being local and cultivated, and by the bread-fruit being scarcely found in perfection beyond the vicinity of Hilo.

Honolulu at a distance might be mistaken for a European village, but, on nearing it, the preponderance of native houses imparts a decided Feejeean aspect. It is a new and flourishing commercial town, and the principal seat of innovation on aboriginal customs. Natives were continually attracted to it from all parts of the group; often from mere curiosity, "and many were afterwards compelled to remain, from the inability of paying their expenses home." A remarkable variety of mixed costume was to be seen in the streets, often gay and tastefully arranged, and there being no prevailing rule or fashion, it afforded quite a study for artists.

It was a novelty in Polynesia to see persons along the roads, bringing wood, charcoal, and provisions of various kinds, to supply a market; in short, a subdivision of labour, and regular system of industry, in accordance with the customs of Europeans. It appeared further, that salt, manufactured principally from sea-water, had become an important article of exportation to the countries on the Pacific, from Chili to Kamtschatka; and that sugar, tutui oil, and arrow-root, also entered into Hawaiian commerce.

Engraving was an unexpected accomplishment to find among Polynesians; and some drawings of ships were shown to me, which exhibited a neatness and a correct-

ness in minute detail not often met with. I witnessed at the mission schools the remarkable universal talent and fondness for mathematical pursuits, about which so much has been said. Printing, too, was conducted by natives, under foreign superintendence. And the missionaries had furnished a liberal supply of mental nurture, in translations of a variety of useful books; these amounted to quite a library, and yet difficulty was experienced in keeping up with the demand.

It appeared, notwithstanding, that no native had hitherto been found to possess all the qualifications requisite to take charge of a shop, or to conduct any mercantile business. The missionaries regarded as one main obstacle to improvement, the extremely limited views of the natives in respect to style of living; "a little fish and a little poi, and they were content." By adopting the use of coin, they had placed themselves in many respects in the condition of indigence; and in conformity with the new standard of value, a native, I was assured, "could be supported for less than two cents a day."

Innovations were also going on in political institutions: and during our stay, the first public execution took place; the prerogative of a chief being at the same time infringed. Much interest was indirectly excited, by the discovery of the meaning of the word "conscience," for which there is no corresponding expression in the Hawaiian language; and one of the natives explained the new idea, as "a magistrate within." For several years, the Hawaiians had been in a state of virtual, though peaceful revolution; and one, it may readily be supposed, having a depressing influence on the spirit of the nation.

Among other consequences, the natives, supposing that the conversion involved the abandonment of all ancient usages, voluntarily left off many useful customs; and, on the other hand, adopted some that seem unsuited to the climate and circumstances of the country. It is true, the practical utility, in some instances, was directly "connected or associated with former religious observances." One fact may be noted, in relation to the establishment of the new order of things;—the efficient agency of a Taheitian.

Even the canoes had not escaped the general change; and

the "representations given by the first visitors would now be recognised only by old people. The model had been altered," and the triangular Feejeean sail had been abandoned. The canoes seen were excavated from single logs. In addition, vessels of European construction had been purchased, both by the government and by individuals, and were employed between the different islands of the group. And some of the native commanders had acquired the general confidence of residents, in respect to their seamanship and correct judgment in nautical matters. One distant commercial enterprise had been undertaken; which, however, in its result, proved unfortunate.

In the midst of these advancements, the population is universally conceded to be diminishing; and the scarcity of children is a subject of common remark, especially as a few sequestered situations offer an exception. The immoral tendency of European contact has doubtless contributed to the diminution; but, perhaps, sufficient stress has not been laid on the drain of provisions, occasioned by the great influx of foreign shipping; for the group, it will be observed, yields only a fixed quantity. The disuse of some former modes of taking fish has likewise deducted from the means of subsistence. According to John Ely, an Englishman, who had resided here for "nearly twenty years: in former times, the natives were decidedly less oppressed by the chiefs and their retainers than at present. All could then procure meat or fish, but now many are forced to go without. There is more ground at present under cultivation, but the quantity of taro is less:" and the latter article, it should be observed, forms peculiarly the support of the native population. It had been ascertained, however, that of the large number of married women belonging to one of the churches at Honolulu, "one only out of three had had children."

All that I have thus far stated of the Hawaiians relates more or less directly to the results of foreign influence. I shall now speak of the aboriginal customs.

From my first landing, I was surprised at the scanty clothing of many of the men and boys; their dress consisting often of a mere sash, as with the Feejeeans; except only that the colour was not fixed by fashion. The large-fruited variety of gourd or calabash was only seen here; and the

shells were in general use, as a substitute for baskets, buckets, and chests. All burdens were carried by means of the balance-beam; and this Hindoo and Ancient Egyptian method is common to all parts of Polynesia except New Zealand, but is not practised at the Feejee Islands.

The green and pleasant aspect of many of the valleys was found to be owing to aboriginal irrigation; not, however, for the production of upland crops, but to form artificial marshes and pools for the cultivation of taro. These pools subserve a double purpose, being likewise used for keeping mullet; the young fry of which are captured along the coast, and by a course of management are brought to live in fresh water, where they acquire superior size and flavour. In the ponds nearest the coast, I have seen two other kinds of sea-fish, the Butirinus and the Dules. Fish-ponds appear to be unknown at the southern Polynesian groups.

The most approved delicacy of the Hawaiian Islands consists of a particular breed of dog, which is fed exclusively on "poi" (fermented taro-paste), and is not allowed to taste animal food. Salt had been always used "to cure pork and fish;" in which business, in a small way, the Hawaiians rather excel: and it was observed, that they did not manifest aversion to our salted provisions, like the other Polynesians and the Feejeeans. Another novelty occurred, in the profession of the fowler; and numbers of small birds were offered for sale alive, which had been captured with a species of birdlime.

The houses are of medium size, compared with others among the Polynesians, and are closely built; having the walls and roof usually thatched with dried grass. In this climate, a covering is necessary at night; and layers of "tapa" serve for a blanket, and are even preferred for this purpose by many European residents. The bed consists of a layer of mats; and we were shown some specimens of matting of fine texture, that had required the labour of years. A string of tutui-nuts forms a candle; in the same manner as castor beans (Ricinus) are sometimes employed at the Feejee Islands.

Among the other Feejeean analogies, it appears that whale-teeth were "highly prized in former times, and were cut into various ornaments." I observed also the nose-flute,

as throughout Tropical Polynesia. It is no longer easy to procure specimens of Hawaiian weapons of war; and, in general, the aboriginal arts and manufactures are rapidly disappearing, with the prospect of there being little left of them, after a few years, except what may be contained in museums.

An estimable and highly intelligent Hawaiian lady gave me the following particulars respecting former customs. She had never seen a mask, such as are represented in published works; but she had heard "that they were formerly used in battle." The "ape" (or large Arum) served as a safeguard against famine, as now at the Feejee Islands. "Money was certainly known; for with a string of cowries (Cyprea monetas) it was possible to buy any article wanted. Specimens of the same shell that were finer than usual, having a high polish and deep yellow colour, were extravagantly valued, and could only be worn by the highest chiefs, who also exclusively possessed wooden calabashes. The natives are unable to form any conjectures as to the origin or object of the practice of tattooing. Formerly, the body was much more covered with these markings than at present, one side often being completely blackened; and, to a certain extent, it would have been possible to designate individuals by the copy of the pattern." At present, letters are frequently inscribed; and I remarked, in some instances, the name of the individual.

As at Taheiti, there is a central government. The succession is maternal; and, moreover, the source of political power is vested in a woman. Even at the present time, "the king does no act without first obtaining the consent of this personage." There does not appear to have been a distinct "chief's language," as at Samoa; but, according to the missionaries, "the chiefs and priests formerly used some expressions that were not understood by the common people."

It happened in former times, that "the brother of the king of Hawaii made a friendly visit to Oahu, where he was received with this greeting: 'You have come, it is well; had it been your brother, my calabash would have been full.' This was a sentence of death; the allusion being to the practice of preserving relics of great chiefs. The affair

led to the extermination of the chiefs of Oahu; for although the king of Hawaii died soon after, his declared design was carried into effect by his ally and dependant, the king of Maui."

The missionaries further stated, that the Hawaiian dances were of "three kinds: the first, licentious; the second, a kind of dirge, or memorial; and the third, a sort of panegyric addressed to their chiefs, in which epithets were used improper to be applied to a mortal. On the occasion of Cook's arrival, it was commonly supposed that he was a god, who had been absent on a visit to Taheiti; or that he and his companions were some of their own relations returning from that island." It appears that several of the conflicts with Europeans arose from the desire of ascertaining whether the strangers really did partake of the divine nature: all which may be compared with what has already been stated respecting Polynesian demi-gods. "A superstitious reverence for lizards existed in former times, at the Hawaiian Islands."

That a people unacquainted with the art of writing should possess a literature, was unexpected; much less, that this should be regarded as deserving of, and, from its extent, as requiring the study of years. In respect to the Hawaiian poetry, there was but one opinion, "that the thoughts are often really sublime." In the midst "of the fiction of their songs, their real history is embodied," even, if I am rightly informed, as far back as the colonisation of the group. The preservation of this literature constituted a distinct department of the government; and a class of persons were regularly appointed as depositaries. David Malo, the well-known Hawaiian author, had been one of these persons. Again, as the missionaries have become better acquainted with the Hawaiian language, it has been found to "possess a force and compass that at the beginning would not have been credited."

In respect to the Calendar, I must refer to the information collected by Captain Wilkes and Mr. Hale. It appears that the Polynesians had a fixed measure for their year, by observing the rising of the Pleiades; and it may be here remarked, that this cluster has been very generally regarded by other nations as "leading the heavenly host," or as

situated in the first sign of the Zodiac. The Polynesian reckoning is by lunations, with the use of an intercalary month; and on all these points the practice of the Greeks* and other nations of antiquity may be compared. It appears further, that the profession of "astrology and soothsaying" had likewise reached the Hawaiian Islands.

Licentiousness prevailed at this group to a degree not witnessed elsewhere; and in the former state of society, when "men were living with several wives, and women with several husbands," there appears to have been really an approach to promiscuous intercourse. In all the other countries which I have visited, more regard has been paid, in this respect, to the indications of nature. It appears, that since the introduction of the laws of civilised nations, "a decided improvement has been observed, and there are now very many individuals of exemplary conduct. A singular indifference, however, has been manifested on the subject of rearing a family." I was myself struck with the few instances met with, of any manifest conjugal attachment; and among the younger portion of the community I scarcely observed more than one.

On the 27th of October I landed on *Tauai*, and walked to Waimea, where an aboriginal American was seen, who had been residing with the natives for several years. Mr. Brackenridge and myself afterwards crossed the remarkable table-land which occupies so large a portion of this island. Although its general elevation is only about four thousand feet, "all attempts at cultivating the soil had hitherto failed; but snow sometimes falls, and natives have perished here from the inclemency of the weather, or, in other instances, have been killed by bands of dogs" that have run wild in this uninhabited region.

On the 3rd of November we again reached Oahu; landing near the western extremity of the island. In some of the secluded dells of Mauna Kaala, the "kava" (Piper methysticum) was found to be still cultivated. The drying of fish was practised on the coast; an occupation rarely seen in Polynesia. A green Conferva was collected in the tide-pools, as an article of food; and on the reefs, sea-weed

* See Herodotus, Euterpe, 68; Thalia, 90, &c.

(Fuci), but not indiscriminately, as one species was stated to be "actually poisonous." In considering the limited resources and future destiny of these islands, it may be questioned whether another race of men would be willing to take advantage of such means of subsistence. Even the national dish of poi finds at present but little favour with foreign residents.

The use of the diving-dress, for some repairs to the vessels, excited the utmost curiosity among the native population; which, indeed, might have been anticipated from their peculiar habits of life. Some of their former feats of diving in the natural way are still recollected, such as "pushing an anvil overboard, and afterwards rolling it on the bottom of the sea to the shore." The proposal to employ in the squadron a number of natives occasioned an overwhelming crowd of applicants. Those selected for the Vincennes did not give entire satisfaction during their short trial; but one element in the failure may be mentioned, an evident jealousy on the part of the remainder of the crew.

On the 9th of December the Vincennes arrived at Hilo, on *Hawaii*. The view from the anchorage is magnificent. The eye is deceived by the vastness of the prospect and the evenness of the gradual slopes; and probably most persons would pass the island without suspecting its extraordinary elevation. Often, indeed, while travelling in the interior, it was difficult to realise that the country was mountainous.

I visited the crater of Kilauea, where I first witnessed volcanic action; and I now perceived the inadequacy of coal-beds, or indeed of fuel, to produce the result. Some insight is here permitted into the interior of our planet—Nature's great laboratory; and rock, the constituent of the earth's surface, familiar to all from infancy, is produced before the eyes by the cooling of a fluid mass. Indeed, the whole phenomenon, with its accompaniments, resolved itself into a simple spring or fountain of liquid rock.

A pit of such enormous dimensions was of itself a novel object, as it afforded a view of part of an actual section of the globe, and rendered strikingly manifest the relative insignificance in point of size of the living beings on its surface.

During the ascent of Mauna Roa, a mountain nearly

thirteen thousand five hundred feet in height, the natives abandoned us; a circumstance not to be wondered at, considering their scanty clothing and the severity of the cold. The undertaking was completed through the aid of part of the crew of the Vincennes, who, however, proved decidedly less efficient in carrying burdens. The bleakness of the exposure on this mountain is illustrated by the presence of a species of goose which here finds a congenial climate, as other kinds do on the Peruvian Andes and in Terra del Fuego.

After remaining about the summit for five days, I returned to Hilo; and next, in company with Mr. Brackenridge, set out for Mauna Kea. Two days' journeying through a dense and humid forest, brought us to the region of frosts, and to the open pastoral district where cattle have run wild. Mauna Kea is about two hundred feet higher than Mauna Roa, but its upper portion being steeper and more uneven, affords shelter from the winds, and the traveller is further favoured in respect to fuel and water. The terminal hillocks only were brushed with snow; but on reaching them, we found the wind violent, while water froze in a few moments in the bright sunshine.

We returned through a different part of the before-mentioned forest, and arrived at the coast about twenty miles from Hilo. Owing, however, to the numerous and very deep ravines, and the want of good landing-places, there is very little communication; and we even experienced difficulty in purchasing provisions, as coin was not valued. Two rough blocks of stone near the path were pointed out; and we were told that in former times "the penalty of death was attached to coming within their shadow."

In the district of Hilo, poi is sometimes made from the bread-fruit, but it is less esteemed than the usual kind; nevertheless, I was surprised at the little attention given to gathering such an important esculent as the bread-fruit. The cocoa-nut, also, was found to be much neglected throughout the group.

On the 20th of January, 1841, I set out on an excursion to the new lava-stream, which had issued from Kilauea a few months previously. The route was throughout the south-eastern portion of the island, which has all been overspread

with ancient lava streams; and I remarked, at intervals, rounded spaces of an acre or more, which though probably coeval with the rest of the surface, looked as if burst upwards by internal force. One of these was pointed out as a former "worship-place;" and at another, according to the natives, "sacrifices were offered in times past, in consequence of an assemblage of people having been destroyed there." My guides also pointed out a spot where "a woman had suddenly perished;" but in this instance there was no change in the lava surface.

The new lava had reached and encroached upon the sea at a place called Nanavali; among other changes, forming a sand beach, where there was none before; while, towards the interior, the forest had been swept away, and the surface of the lava-stream was strewed with dead trees. The scene was stupendous; and it was difficult to realise that such a mass of matter had been contained within the crater of Kilauea. Figures might declare that the contents of a square mile, three hundred feet deep, were equivalent to thirty square miles by ten feet; but to the senses it seemed nevertheless impossible. Vegetation, however, was extending, and Flora was rapidly regaining her reign; and, after a few years, the new lava may cease to attract notice, and be traversed with the like indifference as any other portion of the earth's surface.

We traced the new lava-stream for several miles inland, and then left it for the south-eastern coast. At Kaimo, a town little visited by strangers, the natives collected around us from motives of curiosity; and this was the only spot at the Hawaiian Islands where I found children numerous. My interpreter, John Ely, was struck with the circumstance, and remarked, that "it was many years since he had seen so many children." He further stated, that "formerly, he could not, as now, have left his house unoccupied for days in succession; and that robbery and murder used to be quite common." On passing a woman at work in a taro pond, he remarked, "that she was probably without a husband; and that the natives are in general very regardless of their relations, leaving all to look out for themselves."

We passed the ancient "worship-place" of Wahaura, which is quadrangular, and regularly built of stone, and is

in a perfect state of preservation. In the district of Panau, we turned from the coast, ascending the black rivers of hardened lava, that seemed as if still pouring down from the heights above; but there is probably less real danger here than in many other situations. This district consists exclusively of a bare surface of rock, on which, in despite of a commonly received opinion, the natives have the art of raising crops. It is true a handful of soil is brought from a distance to start the seeds; but the only addition subsequently made to the growing plants of the sweet potato, consists of pebbles. The inhabitants, moreover, are obliged to resort to a variety of devices to procure water for their own use, since the porous lava absorbs the rain as fast as it falls.

We stopped for the night at the chief's house, half way up the slope. A monument had been erected "to the memory of the sister of the chief's wife," with thick stone walls, and having the form of an ordinary Hawaiian house. "Old times were back again in this portion of the island, together with gambling and drinking of the sourish liquor which is procured from sweet potatoes." The chief accompanied me for the two following days, and, on parting, refused any remuneration for his services.

In the plain above, I inspected most of the pit-craters, which extend in a line from Kilauea to where the surface begins gradually to decline towards the northern coast. I also fell in with a party of about twenty natives, on their way to the woods beyond Kilauea to drag a canoe down to the coast.

On the 15th of February, I left Hilo in a Hawaiian schooner, during a spell of fine weather at that place, an unusual and suspicious circumstance; accounted for, when we got clear of the island, by the existence of a south-western gale. We found a lee for four days under the lofty mountain at the eastern end of *Maui*, and on the fifth day, we landed on that island, at Lahaina, the present seat of government. The king, it was said, had been influenced in the selection by "a desire to avoid, as far as possible, being appealed to by the resident Whites in disputes growing out of mercantile transactions." Lahaina may be recommended as a favourable station for the study of marine Zoology,

especially as the natives are accessible, and they, in common with the other islanders of the Pacific, possess more practical knowledge than Europeans do of marine animals and their habits.

I ascended the before-mentioned mountain, which is called Mauna Haleakala, and which, though regarded as of secondary importance, attains the height of more than ten thousand feet. It is an extinct volcano, having in place of a crater a wide open crevice, down which the lava has flowed in both directions to the coast. The native account is, that "Peli (the goddess of fire) once resided here, but became alarmed at the nearness of the sea, and fled over to Hawaii." The approved Geological view of the case does not much differ, except in regard to the fear of water, for it is not in the power of the ocean to quench the fires of Peli. A native made regular visits to the summit of this mountain to watch silk-worm eggs, which have been found to "hatch irregularly" in the warm country below.

On the 19th of March, I landed for the third time on *Oahu*. The feeling of good-will towards the United States is illustrated by the inquiries of the younger portion of the community on the approach of a ship of war: "is it French, English, or one of our own?"

Residents have assured me that, after careful search, no clay suitable for the manufacture of pottery has been discovered at the Hawaiian Islands. This may account for the aboriginal absence of the art; and yet the mineral constituents of the soil appear to be the same as at the Feejee Islands.

In person, the Hawaiians, like the New Zealanders, did not appear conspicuously larger than Europeans, and they evidently fell below the stature of the Tongans, Samoans and Taheitians; indeed, residents have informed me that "they sometimes recognised Taheitians at Honolulu, by the size." The Hawaiian chiefs, however, were almost uniformly large men. The chief women (and this had not been observed at the other groups) were truly remarkable for their large stature, and some of them far exceeded, in this respect, any whom I have seen elsewhere. In the barren portion of the group, I sometimes remarked a complete coincidence between the Hawaiian complexion and the colour of the soil.

The Hawaiians exhibited fewer external marks of disease than the other Tropical Polynesians. I saw scarcely an instance of the loss of the nose. Œdematous legs were rare, notwithstanding that the people habitually resort to the water, though less frequently than at some of the southern groups. Opthalmia and humpbacks were likewise rare. Hip-joint disease was stated to occur only among boys. Cases of mental alienation were sometimes met with, and the malady had caused one individual to build some monuments that might have perplexed the antiquary. Another lunatic was a subject of dread to our native guides, and indeed was hardly in a fit state to be left at large. Pulmonary complaints were observed in the humid climate of Hilo. The natives uniformly attribute the introduction of syphilitic disease to Europeans, a point of some medical importance; and my inquiries resulted in the conviction that the native testimony was to be relied on. The habits of the people favouring a rapid extension, the disease is at present unusually diffused, though apparently confined to the milder form. Parturition was reported to be extremely easy.

OTHER POLYNESIANS.

I shall here insert some scattered notices of Polynesians inhabiting for the most part islands and groups not visited by the Expedition.

In the early part of the voyage, the Vincennes touched at Uea, or Wallis' Island, which is situated less than three days' sail to the westward of Samoa. It seemed not more than three hundred feet in elevation, and consisted of one principal and several smaller islets, all enclosed within a common reef. Cocoa palms were observed to be abundant. A white flag was flying near an opening in the reef, and "a canoe came off with a native, who spoke broken English, and offered to pilot us in." I lost the opportunity of being present at this interview.

On the succeeding day we came in sight of Hoorn Island, which is about "two thousand feet in elevation," and resembles Manua, except that it is larger and a little more broken. Cocoa palms were seen; but we did not approach near enough to hold any communication with the inhabitants.

Specimens of their cloth, obtained subsequently from a trader, show analogy with the Feejeean article.

The king of ROTUMA was residing at the heathen village in Tongataboo, an individual of large stature, having the nose slightly arched, an unusual circumstance in the Malay race. His attendants, however, from the same island, were not distinguishable from the Tonga men around. "He had been brought here by a whale-ship, together with his numerous wives;" and when questioned on the subject of his rank, he manifested some diffidence. He was among those who recognised the Vincennes, having seen her during her former cruise.

Another body of six or eight Rotuma people had been conveyed in a trading vessel to Muthuata, in the Feejee Islands. A woman was of the party, whose husband was shortly afterwards put out of the way, and she became one of the principal wives of the king. She had a house of her own, but was not altogether satisfied with her honours, and she evidently had no particular affection for her new master. I once, however, observed some signs of dislike towards a Feejeean rival. She wore her hair erect, and six or eight inches in length, in imitation of the Feejeeans. These Rotuma people, in common with other Polynesians, though detesting the Feejeeans and their practices, were yet content to remain in the country.

Individuals from the RARATONGA, or Hervey Group, were seen both at Samoa and Tongataboo. They did not present any remarkable difference from the other Polynesians. A peculiar style of ornamental wood-work prevails at the Raratonga Group; and stone-adzes are more highly wrought here than in the other islands of the Pacific.

MARQUESAS islanders were commonly seen at Taheiti and Oahu. Many of them serve on board trading vessels; and I have seen individuals who bore an excellent character. The bread-fruit of the Marquesas Islands is highly commended, and is said to constitute a principal part of the sustenance of the inhabitants.

Recently, in the United States, I have met with a native of LAPA, or Oparo, a detached island, situated far to the south-east of Taheiti, and outside the Tropic. He spoke English,

which he had acquired in a whale-ship; and stated, that Lapa had been "much depopulated since the arrival of missionaries;" it is presumed, Taheitians.

The Polynesians employed as sailors are almost exclusively from New Zealand and from the Eastern groups; while Samoans and Tonga men, at present, are rarely met with.

MALAY AMERICANS.

a. *California.*

On the 15th of April, 1841, the Vincennes sailed from the Hawaiian Islands for the Straits of De Fuca, and after remaining there about three months, proceeded south, to the Bay of San Francisco.

After leaving the Chinooks, the physical diversity of race was sufficiently apparent; and the first glance of the Californians satisfied me of their Malay affinity. I was prepared for this result by the opinion of Mr. Nuttall, communicated to me before leaving home; and also by the figures of Choris and Langsdorff; but on this point, I am able to adduce further testimony. The intelligent Hawaiian lady before mentioned, who had seen individuals from all parts of the coast, regarded "the Californians as differing from the northern tribes, and as identical with her own people." Mr. Agate, who entered California by land, recorded in his note-book on reaching the Sacramento, that "the complexion is darker than in the natives to the north of them, and their general appearance reminded him of the South Sea islanders." In the course of our boat excursion up the Sacramento, Lieut. Alden, after witnessing the superior stature of the people over the Chinooks, their darker complexion and different style of countenance, their crowding to the river bank, their ready salutation and cheerful open behaviour, expressed himself satisfied of their Polynesian relationship.

Here, then, seemed to be a clue to some points in Californian history, which are at variance with our experience on the eastern side of the continent. Such, for instance, as the capturing of the native women for house-servants. The men would be treated with as little ceremony, could they be

induced to remain in the settlements; though, as they can be hired for a trifle to come in and labour, there is no object in enslaving them.

The difference in physical race seems to hold out some prospect that the destiny of the aboriginals of this part of America may be different from that of the eastern tribes; and in connection, the circumstance may be noted, that the crews of trading-vessels on the coast belong equally, for the most part, to the Malay race. The reason assigned for this was, "that in a country actually without government, White seamen had proved troublesome;" and Polynesians were selected, as being more tractable, and not disposed to create difficulty. In Oregon, also, the "islanders were preferred for labourers to Whites from beyond the mountains, as being more faithful to their engagements, and, besides, always good-natured." And lastly, while the Whites are arrogating to themselves the islands of the Pacific, Polynesians have actually found their way into the United States, and in some of our seaports appear to have established themselves permanently.

There were many Polynesians at the Bay of San Francisco, and for a while I was unable to distinguish them from the half-civilised Californians. After, however, a test had been once pointed out, there was no further difficulty; for the hair of the Californian is invariably straight, while that of the Polynesian is waved, or more or less inclining to curl; a difference that may not be very easy of explanation. In both nations the quantity of hair was manifestly greater than in the Oregon tribes.

There was novelty in hearing a half-breed Hawaiian maintain that "the Spaniards of California fell below his countrymen in education, intelligence, and everything pertaining to civilisation." He was, however, unwilling to admit the least affinity with the aboriginals, whom he termed "a most insignificant set of beings."

The "Mission" villages, in which the aboriginal population was collected by the Catholic Fathers, have been much neglected since the admittance into the country of colonists from Mexico. The natives, however, appeared to be the only artisans, though I saw little room for variety in trades. The houses were low, and built of sun-dried brick,

and both Spaniards and natives lived miserably enough, but much in the style prevailing in the interior of Peru. Whether owing in any degree to their state of tutelage and abject condition, the Mission natives certainly had not the good-humoured expression of the Polynesians.

A class-mate and early friend of mine, Mr. John Marsh, after spending eighteen years on our western frontier, traversed New Mexico, and became the first settler in the interior of North California. He established himself beyond the Mission villages, among the unreclaimed SAN FRANCISCO TRIBES, where the Spaniards were unwilling to venture. A year afterwards, he was followed by Captain Sutter, a Swiss gentleman, last from Missouri, who had fixed his residence on the tide-water of the Sacramento, near the head of navigation for sea-vessels. One of "his natives" accompanied our boats, and although he had not previously made the journey by water, was of some use in guiding us to the spot.

I was here interested in observing some thirty natives engaged in making sun-dried brick, standing up to their knees in mire, and working steadily the whole day, so unlike our eastern tribes. Other natives had charge of the cattle; and, as great attention was given to adjusting the accounts for wages, all seemed cheerful and well satisfied. "The labourers had been sent in by the chiefs of different villages; and some had come from as far as the vicinity of the mountains." A profit was even derived from reletting their labour to the settlers on the coast.

I remarked that the mode of *carrying burdens* was the same as with the Oregon tribes, except only that the strap, instead of crossing the forehead, passes over the top of the head.

One evening I witnessed a dance by the native boys, who had ornamented the face and different parts of the body with streaks of white clay, according to published representations. The strong contrast with the complexion, produced at night a striking effect, which could not have been successfully imitated by the lighter Mongolian. One of the boys recently "captured" from the wild tribes had evidently never learned to dance; but he entered into the sport with some spirit, and was making progress in the new

accomplishment. Four or five boys standing apart constituted the orchestra; and both then and on a subsequent occasion, the Californian music appeared to me of a superior order to that heard among other American tribes.

I also visited a neighbouring village, attended by one of the native boys. The huts were hemispherical, consisting of a light framework thatched with rushes, and were apparently intended only for shelter during the rains of the mild winter. The inhabitants had left them, and were encamped in the open air, half a mile nearer the river, having set up branches of trees for shade, and some enclosures of rush-mats. The men, with their chief, were yet a little apart, occupied in various methods of gambling away their earnings. The women were engaged in domestic avocations, and chiefly in the preparation of food. Large stores of various minute seeds were lying in heaps; but the principal resource evidently consisted of acorns; and several women were at work, removing the shells preparatory to drying. Other women were pulverising dried roots, perhaps of the Scirpus lacustris. Some of the water-tight baskets were full of porridge of different kinds, made of combinations of the above materials, and cooked by being placed among hot stones. I tasted some of these messes; but the only thing that Europeans would have considered edible was a string of fish from the river, that arrived as I was taking leave.

I was surprised at finding no *canoes* on these waters. It was said, "that the natives had some formerly, which were composed of rushes, and were used not only on the Bay, but (what requires confirmation) to communicate with the islands along the coast to the southward." And further, that they "much admire wooden canoes, when they get hold of them." In the tide-water of the Sacramento, I sometimes observed natives ferrying themselves over, standing upon a couple of split logs. On the Upper Sacramento these were dispensed with; and I began to think the people had lost the amphibious character of their race; but it appeared, that in the absence of clothing, and the climate being warm and the river narrow, they did not need artificial navigation.

On the 25th of August, the boats left Captain Sutter's

residence; but, owing to various delays, did not reach the junction of Feather River until noon of the following day. At this spot there had been a *burial-place*, consisting of several circular pits, three or four feet in diameter by as many in depth; and skulls were picked up by some of our party. A similar burial-place was subsequently examined, a few miles above, situated in like manner, at the mouth of a tributary stream, where the bank was a little higher than usual; but the pits were here filled nearly to the surface, and skulls were lying around, together with a few articles of European manufacture.

Above tide-water to the end of our excursion, the valley of the Sacramento presented a uniform appearance; that of a level plain, many miles across, and devoid of brush or timber, except a strip of scattered oaks along the river. Immediately beyond the trees, the surface was usually a few feet lower, and there were extensive tracts covered with rushes,—Scirpus lacustris.* It was an unexpected circumstance to find an aquatic plant thus growing in the dry plain; but the stems at this season conformed to the general tint of the herbage, being withered and brown; the revival taking place with the extensive winter inundation.

The presence of a large proportion of saline matter in the soil was considered, at the time, an objection to any kind of cultivation; but this has appeared less valid after visiting the alluvial flats of the Nile. Above Feather River the Sacramento became winding and contracted; but it maintained constantly its breadth of about two hundred feet, and although at this season some twenty feet below the top of the banks, it was deep, and the current gentle.

A few miles above the junction I landed on the eastern bank, with Mr. Geiger from New York, who accompanied our party. The natives had abandoned the vicinity, "in consequence of a conflict, a few months previously, in which they had assailed the boats of Captain Sutter:" acting, as it appeared afterwards, under a misapprehension, there being in the boats some natives of an inimical tribe. The scarcity

* This plant is called "tula" by the colonists, from the Mexican name "tulitl."

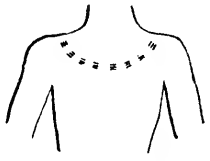
of game in the immediate neighbourhood was attributed to the Canadians of the Hudson Bay Company, "who had been in the habit of coming this way in large parties for the last ten years."

On the 27th, elk were frequent on the western bank; and a herd of some thirty of them made a fine appearance, rallying at intervals and facing us, but not allowing a near approach. A distant fire was seen in the evening; but the following day was passed without further signs of natives, except the remnant of a platform of poles with cordage, at the water's edge, erected apparently for the purpose of taking salmon.

About noon on the 29th, we had our first interview with the SACRAMENTO TRIBES. Several men made their appearance on the bank, armed with bows and arrows and some inferior javelins, and kept pace with the boats in silence. For quivers, they used the skins of quadrupeds, such as the fox, lynx, and cub-bear, suspended at the side, or sometimes carried in the hand.

Shortly afterwards, we landed on the western bank, where three natives were seated, awaiting our approach; but they appeared rather shy, and we could communicate only by signs. Other natives gradually joined them, and a young man, who appeared to be the chief, presented Captain Ringgold with a plume of white feathers; which we regarded as a sign of friendship. Several of the natives wore feathers on the head, either in a tall upright plume, or large ones single; and one man had a tuft of blackish feathers, stripped in halves and twisted, so as to resemble the frigate-bird plumes of the Western Paumotuans. They were, in general, fine stout men, of superior stature to the Oregon tribes, and fully equalling in this respect the European standard. Polynesian expressions of countenance were remarked, and the hair was not worn long, as with the northern tribes; but the scantiness of beard seemed a perplexing circumstance, together with its deficiency in length. It is true, we saw no aged persons; and the men almost universally had some show of a beard, an inch or so in length, but very soft and fine. I subsequently found, that Mr. Marsh also regarded "the Californians as more hairy than the tribes of the United States."

Most of the men had some slight marks of *tattooing* on the breast; disposed like a necklace, uniformly according to the pattern represented in the accompanying figure. The presence of the custom among the Malay Americans should be noted, in considering the origin of the slight tattooing found occasionally among the Chinooks and the more northern tribes; even, it is said, to the vicinity of Bhering Straits.



After a while, the natives invited us to the *village;* which was visible in the distance, with some of the inhabitants perched upon the roofs. The houses were constructed somewhat differently from any met with elsewhere. They were partly subterraneous, being built over a large roundish pit, three or four feet in depth. The roof, although firm and covered with earth, could hardly have been intended for protection against wild beasts; and, on the other hand, the difference in climate from that of the Bay did not seem to demand this closer construction. We observed, however, in one of the houses, a blanket or *cloak*, made of the feathers and down of water-fowl; very similar to one seen in the Straits of De Fuca.

We saw but two or three women, and these took to flight on our approach; a circumstance readily explained by the fear of captivity. The natives, moreover, were said to be "extremely jealous of their women; and ready at any time to engage in a conflict on their account." No free trappers had hitherto taken up their residence among the Sacramento tribes, nor, indeed, in all the region south of the Umpqua.

I had now an opportunity of hearing the *language*, and found it almost as soft and as rapidly uttered as the Polynesian dialects, which it further resembled in the repetitions of syllables. I remarked, however, in some instances, the use of terminal consonants. According to Mr. Marsh, the "languages vary from tribe to tribe, as in the United States, but are always comparatively soft; the grammatical construction, however, is the same as in the other American languages."

We encamped at the spot where we had landed; the natives withdrawing at sunset, and most of them crossing

the river. Nothing occurred to interrupt the stillness of the night, except the usual concert of coyotas (the small wolf, or American jackal), and the falling of a large branch of an oak, at no great distance.

On the 30th, near noon, we again saw natives on the western bank, including, now, some women. They were not so silent as the last, and they made motions for us to come on shore; but we did not stop to make their acquaintance.

Towards sunset, we found ourselves several miles above the "Butes," and had an interview with another body of natives on the western bank. The chief welcomed us to the spot, evidently comprehending our intention of passing the night there; and soon after he withdrew, at our request, with all his people. "It had been usual with travelling parties, to give orders to shoot down any one approaching the camp at night; and the natives had a perfect understanding on this subject."

On the morning of the 31st, we soon arrived at the village of our new acquaintances; where we found a fish-weir extending across the river,—a representation of which is given in the Narrative. The natives were preparing to make an opening for the boats, but were motioned to desist. On landing, the women were still suspicious, and kept at a distance, or altogether out of sight.

A small party, myself included, was detached to proceed by land to a second fish-weir, further up the river. Immediately outside the village, a boy pointed out to me the recent track of a grizzly bear. It appears that the natives sometimes furnish a meal for this animal, although in general it is not of a very bloodthirsty disposition. After such an occurrence, the bear is reported by the natives, "to lose its hair;" and though I cannot find that bears have been seen in this condition, the account reminds us of a Virginia tradition, recorded by Jefferson. The Californian tribes, like the Laplanders, take pattern from the bear in the economy of life; their ordinary food (with the exception perhaps of river-mussels,) "being almost identical, and varying according to season in the same manner. They further have a prejudice against eating the flesh of the bear, the wolf, and all the other animals that feed on man."

A native walking by my side had a strongly marked

Polynesian countenance; and I placed my hand upon his shoulder, for the purpose of examining the texture of the skin: this coincided, in its extreme softness; and I perceived, moreover, as sometimes among Polynesians, that by the act I had won his confidence. So far as physiognomy may be regarded as a test, there appeared to be great diversity of character among these people; and some individuals had a very ordinary expression.

In about an hour, we reached the upper village, some of the men coming forward to meet us; and beneath the scattered oaks, we witnessed a scene of aboriginal life that might truly have been worth perpetuating. We entered the village uninvited; and our numbers being few, the women did not avoid us as before; and indeed our arrival did not appear to excite much curiosity. We remarked, however, that our two guides kept aloof, although from the "broad trail," the two villages must have been on friendly terms.

The upper village, like the others, consisted of about a dozen houses; and no change was remarked in their construction. We saw, in all, not less than a hundred persons; but none of them offered to conduct us to the fish-weir, which was a little beyond, and we proceeded thither almost unattended. It was found to be entirely similar to the first; and the river above was a little broader, and barely fordable; while the strength of the current was somewhat increased.

On returning to the boats, we perceived that numbers of men and boys had crossed the river, and were seated on the bank in the midst of our party. Others were diving for river-mussels, which they put in a small bag of netting attached to the breast; and they soon furnished our cook with an opportunity of trying his hand at unio soup.

In the afternoon, we commenced our return down the river; and although detained by the survey operations, we reached Captain Sutter's residence, in a little less than four days.

These wild tribes offered the third instance met with on our voyage, of people living in a state of nudity; but, unlike the Fuegians and Australians, this occurred in only one sex. The women on the Sacramento wear clothing; a state of things that brought to mind Ledyard's encomium; but I will not undertake to offer any conjecture as to the cause of

this remarkable difference. The dress of the women is a cincture, composed of narrow slips of fibrous bark, or of strings of "Californian flax" (Apocynum), or sometimes of rushes. It varies, however, from the Polynesian cincture, in being longer, and open at the sides.

In addition to their domestic avocations, and the bringing of water from the river, the women appeared to take a principal part in procuring the food; that portion of it at least which is derived from the vegetable kingdom. They collected the grass-seed and other small seeds; but with regard to procuring acorns, I am uninformed. The men seemed to lead a comparatively indolent life; and from the anxiety manifested to get hold of two antelopes we had killed, it was inferred that they were not expert in procuring game. As far as my own observation extended, the marriage tie appeared to be recognised; and I was informed by others, that "the men in general have but one wife."

The Californians differ from the other North American tribes, "in the absence of the tomahawk, and of the practice of scalping." Infants are not carried on the board, neither did we see *dogs* about the villages. A further diversity takes place in their political condition. According to Mr. Marsh, among our eastern tribes (and the same appeared to hold true in Oregon), "a chief has no other authority than the influence arising from personal character; but among the Californians there is something more:" a remark confirmed by our own short experience.

In all these points, Polynesian analogies will be perceived; and some additional ones may be enumerated. Thus we were reminded of the Hawaiians, by the fondness of the Californians for showy feathers, with which they ornament basket-work. Wreaths even were sometimes met with, formed of leaves, which in one instance were yellowish. Their arrows had sometimes wooden barbs, which I have not seen in other American arrows. And again (but not exclusively among the tribes of this continent), they cook with hot stones, and occasionally use the javelin. With regard to a Polynesian derivation, especially if the different condition of New Zealand be objected, it may be remarked, that the language and customs of colonists would naturally be preserved in a country previously uninhabited; but this does

not necessarily follow, if small numbers are brought in contact with a different people.

On the whole, however, there is a strong American impress in the Californian manufactures. The *bow*, especially, is scarcely distinguishable from that used by the northern tribes, and it is in like manner coated externally with sinew; but a portion of the string is covered with downy fur, for the purpose of deadening the sound. The arrows, too, are similar to those in use throughout the continent, and are neatly finished, and invariably pointed with flint-stone. Javelins are pointed in the same manner, except that the stone is larger, or in some instances bone is substituted; the shaft is small and light, and not very straight, from the obvious difficulty of procuring better; and sometimes the end is simply sharpened. *Wampum* occurs among the articles procured at the Bay; together with a dress of quill-feathers, of frightful appearance, said to be worn on stated occasions. Unexpected analogy to the ancient Britons is offered, in the use of acorns as a principal article of food, and in the bows being made of yew.

A native on the Upper Sacramento was observed to be pitted with the small-pox. The tribes having intercourse with the settlements were suffering much from syphilitic diseases, which had been derived through converted natives, from Europeans.

The land party from Oregon, after travelling for several days without seeing natives, fell in with a body of them when they reached the main Sacramento. Some sensation, as I am informed, was produced by their personal appearance, giving rise to such exclamations as: Kanakas! how like the South Sea islanders! The following particulars are from the journal of Mr. Brackenridge. "In the evening we were visited by about thirty natives, who sold us bows and arrows, and white-fleshed salmon. They appeared to be a very good-natured, sociable set of beings, and behaved themselves very orderly. They were mostly in a state of nudity. They brought us a kind of black bread, probably composed of pounded acorns, mixed with seeds of various kinds, and sweetened apparently with the fruit of Arbutus tomentosa; also cones of a species of pine (P. Coulteri), which we had met with yesterday, the seeds of which these people eat.

They sheltered themselves behind a sort of barricade of branches and stems of trees." Mr. Agate remarked the use of a blackish pigment on portions of their bodies, as in the Californians figured by Choris; but which I did not myself meet with. Notwithstanding, then, the distance of a hundred miles from the limit of our boat excursion, the only essential variation noted in the habits of the natives consists in the use of pine-cones, which they are enabled to procure by reason of the vicinity of the mountains. After leaving this spot, the party kept to the eastward of the Sacramento, in general at a sufficient distance to avoid the bends of the river, and did not meet with natives until arriving at Captain Sutter's residence.

To go back a little in the narration: we left the same party on the 29th of September, at the ridge which divides Oregon from California. The political boundary proved to be also a natural one; for "a change took place in the general appearance of the country, which was now mostly bare, the vegetation having been dried up by the heat of summer; while the northern slope was well wooded as far as the eye could reach." A difference also was soon apparent in the habits and disposition of the natives, who belonged to the SHASTY tribe.

After crossing the ridge, the party remained during the 30th, at their encampment, by the side of a small stream. At this place "an old feather dress was found hanging near the remains of two huts, the only ones seen on the whole route;" and which, according to Mr. Agate's drawing, were similar to those of the San Francisco tribes. On the 1st of October, the party soon "reached the main river; and continuing over a level plain, again struck it towards evening, and encamped on its banks. An interview was had with some natives, who sold us a species of white-fleshed salmon, which abounds in this river." One of these natives (whose portrait was taken by Mr. Agate), wore a hemispherical cap, of the same kind of manufacture as the water-baskets; and his quiver, in the drawing, resembles those of the Sacramento tribes, and is carried in the same manner. "Another native had a dress of leather, devoid of hair," and of the usual aboriginal manufacture.

"On the 2nd, the party proceeded over a gently undulating

prairie, abounding in saline efflorescences, and encamped on a small stream." The encampment was "visited by several natives, who sold bows and arrows;" and Mr. Agate likewise obtained a sketch of one of these individuals.

Both Mr. Agate and Mr. Brackenridge think the Shasty should be associated with the Oregon tribes; and they were first struck with the physical change on arriving at the Sacramento. I would observe, however, that the complexion in the drawings is too dark for the Mongolian race; and among other variations in habits, that "the bundles of rushes for canoes, in the form of a lashed-up hammock" (mentioned in the Narrative), entirely correspond with Choris's representation of the Californian canoe.

On the 3rd, the party crossed the commencing ridge of a mountainous tract of country, "and encamped on a small stream, which was said to be one of the tributaries of the Sacramento. On the 4th, the forest was at first rather open, the undergrowth having been recently burned by the natives; and the trunks of some of the large pines were still on fire. Fires were also remaining at some native camps, but the people kept out of sight; and in one instance the retreat had been so precipitate, that a woman's basket and bag had been left behind. According to one of the Canadians, 'these natives subsist principally on seeds and small fruits; have no huts, but take shelter behind rocks and trees; and clothe themselves in undressed deer-skins.' The route for the two following days continued through a rugged mountainous country, full of deep ravines, and covered with boulders and angular fragments of rock; the natives still avoiding the party, although from the frequent occurrence of trails, they must be numerous. The horses having suffered from the want of food, the party encamped early at a patch of grass, and remained there during the 7th. The journey was resumed on the 8th, and during this and the succeeding day, the country continued much of the same character. On the 10th, however, the ridges were observed to be less steep, with the general surface declining gradually towards the south and west;" and on the same day, as already mentioned, the party reached the main Sacramento.

On reviewing now this account, it would seem that the natives who avoided the party may have been women

collecting food. The description, however, of the Canadian seems to indicate the existence of a separate tribe.

A lad, "purchased in the SHOSHONEE, or Snake country, had been brought by the way of Oregon" to Captain Sutter's residence. I did not distinguish him among his new companions; but I am unprepared to speak decisively of the physical race from this single instance. Mr. Geiger, who had visited the Shoshonee country, was of opinion "that the people should be associated with the Californians." A tribe inhabiting the same quarter has been described as "ornamenting their persons with white streaks;" which is another point in favour of the reference.

In regard, however, to the SOUTHERN CALIFORNIANS, there is no ambiguity, if we may depend on the concurrent testimony of all visitors. The figures of them, by Venegas, also confirm the identity in physical race with their northern brethren.

b. *Mexico and the West Indies.*

I have already spoken of a Mexican, from the province of *Sonora*, who was seen at San Francisco. In personal appearance he was so similar to the Polynesians, that I should not have suspected any claims to European descent.

In coming from the United States, Mr. Marsh passed through *New Mexico*. The route led from Santa Fe to Chihuahua; thence to Casas Grandes (a place celebrated in the aboriginal history of Mexico), and along the River Gila to the Colorado, and afterwards by the coast. He spoke of extensive ruins. "The population throughout was chiefly of the aboriginal stock; in some districts wild and hostile, in others civilised and very numerous. He crossed nothing like a ridge of mountains, although hills and mountains were frequently in sight. He found the country in general excessively arid; yet many places afforded sustenance for herds of cattle. Cacti abounded; and a certain species, if cut in a particular manner, affords drink for the suffering traveller. In one district a sort of armour was used in riding, for the protection of man and horse against the rigid and thorny vegetation."

The Rev. Mr. Chamberlain, of the Hawaiian mission, had visited *Acapulco*, where he "was struck with the resemblance

of the natives to the Polynesians," in contradistinction to the aboriginals of the United States. Basil Hall, too, speaks of a "Malay type" among the people of the same part of Mexico; and traders at San Francisco assured me that "the natives were alike along the whole western coast."

The presence of two aboriginal races in Mexico recalls some seeming coincidences in the ancient history of that country. It is stated of the Toltecas, the predecessors of the Aztecas, that they "were acquainted with agriculture, manufactures, the working of metals, and various other arts of civilisation, and even that they introduced the cultivation of *maize* and *cotton*." Now the art of cultivation could not have been derived from Oregon, where the idea was aboriginally absent; a state of things connected apparently with the high northern source of the Mongolian population of America, the climate precluding agriculture in the parent countries. If, then, this art was introduced from abroad into America, it must have arrived by a more southern route, and, to all appearance, through the medium of the Malay race. I would remark, further, that the route must have been yet south of San Francisco, where I observed only one, and that a doubtful instance, of aboriginal agriculture.

Another remarkable tradition, mentioned by Humboldt as common both to the Mexicans and to the widely-separated Muyscas of Bogota, attributes the "origin of their civilisation to a man having a long beard." Now, a long beard is precisely a circumstance that would be apt to make a lasting impression among a beardless people, and at the same time is one which they would not be likely to invent: further, it is not inconsistent with the physical character of the Malay race. At Singapore, I was reminded of this tradition by the continual recurrence of long-bearded masks on the Chinese stage.

The influence of a second physical race might be expected to extend beyond its precise geographical limits; and I will here note the occurrence in America of some additional Malay analogies. A variety of Polynesian customs are mentioned in the accounts of the native tribes of Panama and Central America, and even some coincidences in the names of places around the Mexican and Caribbean seas. Two distinct styles of costume may be recognised in paintings

of aboriginal Americans; and the cincture and wreath of upright feathers are not found among the northern tribes. The American languages are also susceptible of geographical division; being on the one hand soft, with principally the vowel termination; and on the other harsh, with terminal consonants:* a point that acquires interest from the fact, that no portion of the Malay race has hitherto been found using a harsh language.

In the United States, the Cherokees, and others of our southern tribes, are known to speak comparatively soft languages. Malay analogies will also be perceived in the following particulars respecting the Creeks,† communicated by Dr. Boykin, of Georgia, and even something similar to the East Indian practice of running a muck. "Sometimes a Creek will become desperate, or one of them may be teased to that point of exasperation, that he will declare an intention to 'kill the first man he meets,' which he will be sure to do, whether friend or foe: such persons are often put to death by their own people. No incident, however trifling, can take place in the nation without the knowledge of the chiefs; who have, moreover, a species of chief's language, in the use of figurative expressions, that are not understood by the common people." If, however, any actual remnant of the Malay race exists in the eastern part of North America, it is probably to be looked for among the Chippewas and the Cherokees.

With respect to the extinct aboriginals of the WEST INDIES, I have seen an oil painting by Brunias, which was presented to Harvard University in 1790, and which represents three "Native aboriginal Caribs of St. Vincents." The complexion, features, and general aspect agree very well with the Malay race; but the costume presents analogy with that of our northern tribes; and it is also evident that red, and not yellow, was the favourite colour. This single example has not enabled me to form a decided opinion on the ques-

* This distinction occurs in languages generally, although not always expressed in the orthography; and depends on two distinct methods of utterance, which may be termed conveniently enough, the masculine and feminine forms of language.

† A tradition exists among the Creeks, as I am informed by Mr. Leconte, "that they came originally from the West, from beyond the Mississippi."

tion of race; but probably additional materials may exist in paintings and tapestry on the other side of the Atlantic.

It is possible that the Malay race may be more widely extended in Mexico and South America, than is represented on the accompanying map; and, indeed, I am disposed to refer to that race whatever is authentic in the accounts of "black aboriginals." Geographical considerations render it improbable that any third race had reached America prior to the European discovery.

MICRONESIANS.

After leaving California, the vessels of the squadron proceeded again to the Hawaiian Islands; and on the 27th of November resumed their course to the westward.

I have already, in the account of the coral islands, spoken of tribes which, from the affinities of language, should perhaps be referred to the Micronesians. Most of the widely scattered CAROLINE ISLANDS are equally composed of coral; Oualan and Ascension forming the principal exceptions.

The accordance of all published figures and descriptions, leaves no room for doubt as to the physical race of the inhabitants; especially as such a careful observer as Chamisso unites the Radack and Caroline Islanders with the Polynesians. Choris, who accompanied Chamisso, has given a figure of a Caroline Islander; and it so minutely corresponds with one of those taken by Mr. Agate at Depeyster Island (in the Vaitupan Group), as to lead to a suspicion that the two natives were countrymen.

Belts of banana fibre, "from the islands of Egoy and Ascension," were obtained by the Expedition; and they indicate a more refined state of the arts than the Tarawan, Polynesian, or even the Feejeean manufactures. The reported use at the Caroline Islands of "a sort of compass," is a point deserving further inquiry.

Lieutenant Knox, in the schooner, visited *M'Kenzie's Island;* a clustered coral island, situated between the Pelew and Marian Groups. He found the inhabitants "resembling the Caroline Islanders, but having their teeth much discoloured, apparently from the use of betel."

The western limit of the Micronesians remains uncertain; and from the descriptions of Morrell and Jacobs, there is

even reason to suspect their presence on the north coast of New Guinea.

I saw the two natives, from islands in the vicinity of the ADMIRALTY GROUP, who were brought to the United States, several years ago, by Captain Morrell. One of them belonged evidently to the Malay race; but in place of the openness and simplicity of the Polynesians, he possessed rather the East Indian temperament. He was younger than his companion, and less skilful in throwing the javelin; and I observed, also, that he was unacquainted with the proper manner of holding a pen-knife. I do not remember any marks of tattooing.

Mr. James Read, of Philadelphia, "once landed on PULO MARIERE, a small island north-east of Jilolo, and found the natives, a very large and fine-looking set of people, and beautifully tattooed."

On proceeding thence to the PELEW ISLANDS, Mr. Read perceived "a striking diminution of stature, together with an entire absence of tattooing:" in these particulars agreeing with the general population of the Philippines and other East Indian Islands.

After leaving the Hawaiian Islands, the Vincennes sailed through the northern portion of the Ladrone or MARIAN GROUP; and we saw in the distance Grigan and Assumption, two isolated mountains rising abruptly out of the sea, with their summits concealed by clouds. We had now entered a region where the development of coral is less extensive; and what is of importance in regard to the subject of migrations, we here reached the limit of the monsoons.

I had previously at San Francisco seen a Ladrone Islander, and I had no difficulty in referring him to the Malay race, not perceiving any traces of even mixed descent. The stature was a little below the European standard; the complexion full as dark as in the Californians and Hawaiians around; and his small eyes and half-open eyelids, were perhaps an individual peculiarity.

JAPANESE.

An American whale-ship arrived, as we were leaving the Hawaiian Islands, having on board four or five "natives," who had been taken from an islet "not represented on the

charts, situated in about N. lat. 30°. They had been driven thither by bad weather, in a small boat, which resembled the flat-bottomed skiffs of New England. The islet, though high, afforded scarcely any other vegetation than low reeds; and they had been obliged to subsist principally on sea-birds (gannets, &c.), uncooked. They had remained there several months, and were in a famishing condition. When they came on board the vessel, they made a low bow, placing the hands together in front; and being allowed to stay, they soon learned to assist the crew;" but the youngest only, a half-grown lad, had acquired some words of English. "They kept sacred one day in every fortnight, complaining 'that our Sunday came round too often;' and they gave an exact account of the number of days and moons they had passed on the islet. They recognised *rice*, which they happened to see soon after coming on board, and which had evidently formed their accustomed food: they were also acquainted with *maize*, and, it was thought, with oranges." On the other hand, cocoa-nuts and the common Hawaiian esculents were new to them; and it thus appeared that these men did not belong to the Loo Choos, nor indeed to a tropical climate. To inquiries respecting their native country, they uniformly answered, "Tosa," which is the name of a district in one of the southern Japan islands.

Their personal appearance differed from my preconceived ideas of the Japanese; and, for a time, I was unwilling to admit their connexion with the Malay race. In my note-book I find recorded, that "they were all short, rather stout built men, with the complexion nearly as dark as in the Hawaiians; which, together with their slight profile, the nose rather flat, and their thick black hair, left me for some time in doubt." Mr. Drayton at once recognised the Polynesian features in the eldest of the party (who had a beard), and in this individual the resemblance was obvious; but his companions had the contour of the face on the front view, more rounded than is usual with the Polynesians: the lad, however, had the nose so remarkably broad and flat, that all idea of the Mongolian race was out of the question. The eyes were neither small nor obliquely placed, though there was perhaps something of the "rounded inner angle." Two of these persons were pitted with the small-pox.

After laying aside their national costume, they had suffered their hair to grow; but they explained, that it was usual at home to shave the top and sides of the head, and bringing the remaining hair forwards, to fasten it in a short tuft over the crown. Their language was rather soft, and was rapidly uttered, with usually the vowel termination; but the final "ng" was sometimes heard. They bowed very politely when we took our leave.

Dr. Judd, of the Hawaiian mission, found them to be "of the lowest class, fishermen, and very ignorant; but their countenances brightened at the mention of some places in the south of Japan, with which they had been accustomed to trade." Dr. Judd had formerly seen some educated Japanese, from Matsmai, in the north, who, he had already informed me, "appeared to him, unlike the Chinese, identical in physical race with the Hawaiians."

EAST INDIANS.

a. *Luzon.*

On the 8th of January, 1842, the Vincennes reached the BASHEE ISLANDS, near the northern end of Luzon, and at the same time, an English bark in the distance proved a cheering spectacle, after the lapse of twenty months without finding the ocean enlivened by a sail. The islands were high and broken, and one of them was sufficiently elevated to be cloud-capped. We passed the nearest of the group, at a distance of about four miles, and were surprised at its barren appearance, for it had a general brownish tint, and seemed altogether unwooded.

Even the western coast of LUZON bore an unexpected resemblance to California, and we saw only openings and scattered trees, nothing like a continuous forest, until we had proceeded as far south as the vicinity of Manila. The armed government launch boarded us in the bay; and afforded the opportunity of recognising in the crew, the identity in race with the Polynesians. There was, however, an expression of countenance that betokened education in the midst of more refinement, and also a striking diminution in stature, for in common with the other East Indians, they fell decidedly below the average size of Europeans. The

predominance of blue in the dress reminded us that we were now in the region of indigo.

On landing, the soldiers were found to be all natives: the officers in general Spanish, though sometimes of mixed descent. The troops were all in uniform, and the discipline was European and highly commended, together with the music by native performers. "As there are sectional animosities, besides the four or five languages spoken at the Philippines, advantage could be taken of all these circumstances in the detail of the service."

It was interesting to observe the numbers of brown ladies riding in carriages: while in intelligence and refinement of manners, so far as one may judge without a knowledge of the language, many of them did not suffer by comparison with Europeans. It appeared, however, "that these persons were mostly intermarried with Spaniards, or were more or less of mixed Spanish parentage." It was further said, that "the descendants of Spaniards, mixed or otherwise, bear great hatred to the new-comers from Europe, to whom the government offices are mostly given, and who regard the former as inferiors, although often more wealthy, more intelligent, and better informed than themselves." The infusion of Spanish blood is, however, trifling beyond the precincts of the Capital; and it appears that out of "a population of two and a quarter millions,* in the Marian Islands and Spanish part of the Philippines, the Europeans number less than three thousand." In the inland villages, I was struck with the apparent absence of all foreign admixture; and the traveller often experiences difficulty in finding persons who understand the Spanish language. Wealth does not at the Philippines bring about luxury in diet; but I was assured, that "the native families, whether rich or poor, lived almost exclusively on rice."

The native *houses* were all alike, small, built of bamboo, and set on posts about six feet from the ground, and this mode of construction, which in a rainy climate seems conducive to health, was found to be general throughout the East Indies. In the shape the Feejeean architecture was

* See an "extract from a work printed at Manila, 1818-19;" quoted in Moore's Papers on the Indian Archipelago.

readily recognised; but there was less regard to neatness, and the workmanship was inferior, particularly about the roof and thatching. The interior arrangements, however, were different, and mats were not so generally in use as with the Polynesians and Feejeeans.

The usual mode of *carrying burdens* was the same as with the Tropical Polynesians; but for the first time in the course of the voyage, we observed articles occasionally borne on the head. Children were sometimes supported astride on the hip, as commonly seen among the Polynesians, and the mode of caressing them was likewise by *rubbing noses*. It appeared further, that the practice of *shampooing* was not unknown; but neither here, nor in any other part of the East Indies, did I see the slightest marks of *tattooing*. I was surprised to learn, that hardly any genuine instances of running a muck occurred in this part of the Philippines.

Among the strange sights to a visitor may be enumerated the universal bloody appearance of the mouth and teeth, derived from the use of *betel*, and the great numbers of persons who earn a livelihood by the traffic in that article. Also, the singular prevalence of the amusement of *cock-fighting;* natives being seen everywhere in the streets, bearing the bird under the arm, while the crowing is incessant at all hours of the day and night. The *buffalo*, too, contributed to the novelty of this phase of civilisation, an animal which in stoutness of frame, the naked skin of the colour of mire, and its semi-amphibious habits, seems fairly an associate of the elephant and hippopotamus. Although dangerous to Europeans, it is regarded, in the hands of the natives, as rather a docile animal. I saw, however, a native bearing the marks of a frightful wound inflicted by a buffalo, one cheek, including the eye and nose, having been torn away, and left hanging like a large tumour, with the profile still distinguishable, on the side of the head.

Passports having been obtained for an excursion into the Interior, a party of us left Manila in two canoes, conveniently furnished with sliding roofs and dry floorings of bamboo. The water was smooth, and although the current was strong, our progress against it by paddling was rapid. The banks of the stream were lined with houses; and the

very numerous population was obviously uninfluenced by European fashions. Occasionally a native might be selected as he stalked forth, who, in attitude, dress, and whole personal appearance, seemed the miniature image of a Tonga man. Numbers of women were fishing with the hook and line, standing in the water, or in canoes, or sometimes in half-canoes; but the large square dip-nets, provided with a lever and weights, were always managed by a man. We were all struck with the ease with which the necessaries of life seemed procurable; and especially with the great quantity of food obtained from this narrow quiet water-course.

The rearing of *ducks* was practised on a scale not dreamed of in our quarter of the globe, and in its details afforded a very curious spectacle. While to complete the aquatic scene, buffaloes were led by a cord to their evening bath, and many of them might be observed having only the mouth and eyes above the water. We landed at one place, and rarely have I felt so entirely separated from home, since in the midst of a civilised and intelligent population, it would have been difficult to explain who we were, the objects of the voyage, or even where our country was situated.

Towards sunset we changed our crew, and having obtained a mast and mat sail, we entered the lake, proceeding among aquatic fences of slips of bamboo, which had been carried out for miles in the shallow water for fishing purposes. After clearing these, we parted from the other canoe, and having shut down our roof, sought repose in our slight but commodious vessel. It was nearly calm, and our crew paddled until three in the morning, when they landed to cook some rice; they shortly afterwards resumed their labours until eight, the time of our arrival at Santa Cruz.

Mr. Sturgis, Lieutenant Eld, and myself, here procured horses, and proceeded along a road constructed under European supervision, and paved a good part of the distance, although hardly intended for wheel carriages. Cocoa palms formed the principal article of cultivation; and they were in immense numbers, having the tops united by bamboo stems, to obviate the necessity of descending while going through a plantation: indeed, wealth at Manila was said to be often estimated by the thousand of cocoa palms. The chief product appeared to be an ardent spirit, whether of aboriginal

manufacture I did not ascertain. Joints of bamboo were used for bottles, as among the Pacific Islands.

Four plants, the bamboo, cocoa palm, pandanus, and rattan, give a direction to domestic economy in the East Indies and the neighbouring parts of Asia; and it is surprising how many of the conveniences and elegancies of life they render attainable: while it should also be observed, that it is precisely in these same countries that the art of living in a tropical climate is best understood.

In about three hours we arrived at the Mission of Mayjayjay, where we found extensive stone edifices, a church, school, well supplied market-houses, and various outbuildings. These were not the only innovations on the original customs of the country; and I have nowhere witnessed a more pleasant sight than that of the surrounding population on their way to church, all neatly arrayed in their best attire.

There had been continual rains on the mountain of Banajao; but, in the midst of discouraging accounts, it was decided to make the ascent. The *horses* brought for us, were very small, and of most unpromising appearance, and we were surprised at the good service they rendered. The same small breed is found in the other East India islands, and, together with the buffalo, is of aboriginal introduction. These two were the only new domestic animals thus far met with in voyaging westward; for the bullock, which was rare, appeared to have been first made known in this part of the East Indies by Europeans.

After passing through the inhabited region, we arrived at the woods, where the acclivity was too steep for horses; and it was now a work of five hours to reach the summit, which is the highest point of the island, being about six thousand five hundred feet above the sea. It was here very cold, and the rain still accompanying us, we did not remain longer than was necessary to complete the observations; but so much time had been lost through the mismanagement of our guides, that we were obliged on our way down, to pass the night at the half-way station. There was but little shelter here from the heavy rain; and our large company of natives, unlike the Polynesians and aboriginal Americans, proved utterly helpless in such an emergency. They slept very little during the night; but though nearly naked, having

the skin inured to exposure, they were probably in less danger than ourselves of an attack of acute disease.

We were glad to leave on the first appearance of daylight, and finding our horses at the place where we had left them, we mounted, and before noon again arrived at the Mission. Among other attentions, Father Romano y Aranda presented us with a rare edition of the Tagala grammar, "printed at Manila in 1610," and containing specimens of the aboriginal *alphabet*, which has been superseded by the Roman letters. "He had never been able to find manuscripts in this character, and did not think any person now living could read it." He further mentioned, that some have supposed the Malay population of Luzon to have been "derived from Borneo; and also, that on the first arrival of the Spaniards, there were officers collecting taxes or tribute for the Borneo rajas."

In the afternoon, we returned to Santa Cruz, and embarking in our canoe, spent another night upon the lake. We landed early on the morning of the 19th, at the hot spring of Baños, and after remaining awhile, again set out with a fresh but not altogether favourable breeze. Notwithstanding we had the assistance of paddles, one of the large narrow canoes used on this lake, having a double out-rigger, went to the windward of us with ease. Before dark, we reached the village at the outlet, where a theatre was said to be "kept open during the holidays;" and having now the current in our favour, we proceeded at a rapid rate, and landed in the city at an early hour in the evening.

The government of the Philippines is nominally military, but the population appears to be ruled principally through the priests, whose ascendancy is such that "no instance had occurred of the murder of one of them in insurrections, and even acts of violence towards them have been extremely rare." In short, the internal action of government appeared to be mild and primitive, and the people contented and happy; and the traveller is carried back to those times when the Catholic missionaries first reached this quarter of the globe. Of all the immense region of the East Indies, the Spanish portion of the Philippines has alone been converted; while the proceedings of the other European powers appear to disadvantage, even after making every allowance for the prior visits of the Muslims.

On the 21st of January, the Vincennes sailed from Manila to the southward, proceeding among some small islands, and afterwards along the western coast of MINDORO. The aspect of the land was much like that of Luzon; but we could distinguish few signs of inhabitants, further than the smoke of fires. At the southern extreme of the island one of our boats visited "a small Malay village." Rocks and rocky islets were occasionally in sight to the southward and westward; and after leaving Mindoro, we obtained a distant view, in the opposite direction, of the high mountain of "Setoal."

The western shore of the important island of PANAY, presented the same general aspect; but there were evident signs of inhabitants, as houses, cocoa-nut plantations, and even some buildings of Spanish construction. A party landed at a spot where the Spanish flag was flying, and reported on their return, "that there was only one white resident, then absent, and that the people appeared to be much frightened at the visit." Our native pilot persisted in asserting that the Spaniards kidnap the people in this quarter, for slaves.

b. *Mindanao.*

The next land seen, the western end of Mindanao, was clothed in great magnificence with an unbroken forest; a circumstance that seemed to account in part for the independence of the inhabitants. The Spaniards, notwithstanding their convict establishment, do not claim the sovereignty of this island, which, by their account, "belongs to the Moors."

On turning the extreme point of Mindanao, we found ourselves close to the small Spanish fort of Caldera, where the Vincennes anchored. It bore on the walls the date of 1784, and was occupied by a few Malay soldiers, with a European officer. The latter stated, that "it was intended merely for protection against the Moorish (or Muslim-Malay) pirates, who, in their boats, carry persons away for slaves, or to obtain a ransom. To prevent, therefore, a night surprise, the natives have sleeping-huts in the trees, elevated many feet above the ground."

On the following day, in company with others, I took a

ramble of a few miles along a path leading into the luxuriant forest. For the first time, I saw monkeys in the wild state, and had an opportunity of witnessing their wonderful agility. I saw also hornbills, species of merops, trogon, colaris, and other birds, as well as insects of brilliant hues; and I realised finding, at last, the gigantic and showy animal creation associated with our usual ideas of the Tropics. Such was the seeming correspondence in the surrounding natural objects, that there was difficulty in giving credence to the alleged absence of the elephant, rhinoceros, and all the larger quadrupeds. We were not, however, aware at the time, that the *Pythons* (the "anacondas" of the Eastern Continent) "were extremely common; although often escaping notice from their resemblance to large woody vines hanging among the tree-tops." From my subsequent inquiries, I am inclined to think that Mindanao may be regarded as the head-quarters of these reptiles.

Towards evening, we again left the fort, to visit a village in the vicinity, with the injunction "to be very cautious, and not trust to the Moors." We found only a few scattered Malay houses, of the usual construction, some of which we entered. The people were civil; and they even had in use some articles of European manufacture. Our Malay soldier, however, pronounced them "Moors," and spoke with a compassionate air of "their ignorance."

I was a little perplexed with the personal appearance of these Muslims, as the complexion appeared to me (though not to others) lighter than in the pure Malay race; and one individual had a different expression of countenance. This was certainly not Mongolian; but from my present recollections, I am not sure of the entire absence of an Arab tinge.

We passed through a field of maize, which at a distance would hardly have been recognised. Although planted "in hills," these were so near together that we had difficulty in forcing our way between the stems, which were about eight feet in height. It should here be observed, the maize is regarded by Crawford as of aboriginal cultivation in the East Indies.

A boat from the Vincennes visited the large town of Samboangan in the vicinity, the Spanish convict establishment before mentioned, and one of our officers was here

struck with the "large proportion of persons who seemed to be of Chinese lineage, and he saw some real Chinese. The resident Catholic Father, who was highly intelligent, communicated some late news from Europe and America." It appeared, that the efforts for conversion were reserved for the "pagan Indians;" experience having shown the futility of all attempts with the Muslims.

I have not met with any examples of the HARAFORA tribes, described as inhabiting the interior of Mindanao, Booro, Ceram, and Celebes, and as possessing the entire island of Jilolo. What is alleged of the superior stature and bodily perfection of these people, is worthy of notice; together with the existence among them of the practice of tattooing, or at least of staining the skin. These particulars, taken in connexion with what has already been stated of the inhabitants of Pulo Mariere, seem to have a bearing on the question of the origin of the Polynesians.

Dalton,* after enjoying unusual opportunities for forming a correct opinion, has identified the Harafora of Celebes with the Dayaks of Borneo. Dr. Dickenson, of the American Mission at Singapore, had visited the interior of Borneo; "in most parts of which island it is not difficult to travel, though some of the coast people are to be avoided. The Dayaks are not, like the Chinese, lighter-complexioned than the Malays; he had conversed with Dayaks, who stated, among other matters, that it was usual with them to 'eat their grandfathers when they became very old.' There are neither elephants nor tigers in Borneo."

Hunt,† in speaking of the *Idan* and *Moruts*, who appear to replace the Dayaks at the northern extremity of Borneo, states, "that they are fairer and better featured than Malays, stronger and more robust; the Dayer much darker and more resembling the Malays. The inhabitants of Mount Kiney-Baulu, are nearly as fair as Europeans." Dalton likewise mentions Dayak "women from the mountains, having colour on the cheeks." As I have never seen the pure Malay light-complexioned enough for this I am inclined to suspect some mixture of another race; and geographical considerations point, as intimated in another

* In Moore's Papers on the Indian Archipelago. † Ibid.

place, to the Mongolian. The account by Zuniga, of the "Ygorotes" of Luzon, may also be compared.

b. *Sooloo.*

On the 1st of February, the Vincennes sailed from Caldera, passing in the first place, the considerable island of BASILAN. Although in plain sight from Caldera, it is beyond the reach of Spanish influence; and some individuals had recently been murdered there, on landing from a European vessel.

On the following day, our course was among scattered rocks and islets; in some instances, low and exclusively of coral, resembling on a smaller scale those of the Pacific. We had previously seen but slight indications of coral in the East Indies.

We soon reached the island of SOOLOO or Jolo, seemingly one of the most pleasant we met with in the whole course of the voyage. Its surface appeared to be in great part under cultivation, and the resemblance to some of the Feejee Islands was at once recognised by Veindovi. As we proceeded along the coast, many small canoes came around, having double outriggers, double-bladed paddles, and containing each from two to five persons, who had brought fruit, fish, and other articles for sale. Even here, the value of coin did not appear to be well understood, but direct exchanges were generally preferred. The complexion was now deep brown, and the features were in all instances, unequivocally Malay; while from the seeming good humour of those who came on board, from everything except the inferior stature and absence of tattooing, the scene scarcely varied from many we had witnessed in the Pacific. A different state of things, however, was found to exist on shore.

The Vincennes anchored at Soung, the capital of the island, and the centre of political power in the surrounding region. Shortly afterwards I landed with others and walked through the principal part of the town. The style of building was found to be essentially the same as in Luzon, except that many of the houses were placed over the water, with long platforms or bridges connecting them with the shore. The men went habitually armed; but in place of the bow

or club, they had the spear, shield and straight sword, each singularly resembling the ancient Greek pattern of these weapons. It should further be observed that the introduction of these three weapons into this part of the East Indies, is attributed to the Muslims.

We had landed on Friday, the Muslim sabbath, and the "Sultan" was at his devotions in the "mosque:" this was a building larger than the others, but devoid of any traces of the proper Muslim style of architecture. We visited the "Dattoo" (or Vizier), who understood Spanish, and seemed intelligent enough, although he evidently did not appreciate scientific researches. In the midst, however, of seeming politeness, he appeared disposed to take his ease, smoking and lolling upon a sort of canopied bedstead. One of his children, an infant, was carried about, attended by a train of females, and also by a man, who had been appointed to the office of his sword-bearer.

After a while, the Sultan, with his suite, bearing one or two large umbrellas, was seen to leave the mosque, and word was soon brought, that he was ready for an interview. The result so far as I was immediately interested, was unfavourable to an excursion into the Interior; it being alleged, that "the people were so bad, there was no safety for us;" and indeed, after making allowance for motives of policy, our subsequent experience led us to think, that his highness had reason. Up to the time of the interview, no incivility had been offered, or if anything particular had been remarked, it was some signs of aversion on the part of the women; but on now returning through the town, we found a marked change in the deportment of the inhabitants. Streets through which we had previously passed, were now prohibited; but we were allowed to extend our walk along the water's edge, where some twenty proas were drawn up. We afterwards reassembled at the landing-place, forming a considerable party, and although well armed, we were not sorry to get away in our boats before dark.

Two "Lascars" were found here, one of whom spoke English, and having been in London, he drew a rather striking contrast between the condition of the people in the two places. He further stated, that "he had been captured with Captain Gregory, when the pirates, making their

accustomed distinction of colour, had saved him alive. He had been here for a year, the Sultan telling him, that after he had paid one hundred dollars he might go." We had been prepared, by common report, for a visit among thieves; and it appeared by the account of the Lascar, that here they do not even preserve honour among themselves; while, in addition to other troubles, the practice of running a muck was extremely common. There were no European residents at Soung; and vessels visiting this place, incur very little risk of desertions.

In the words of our native pilot, "the padre was an Arab," and he returned my Arabic salutation; his eye, I thought, moistening at the sound of the language, but I was unable to hold further communication with him. In the expression of his countenance, I perceived some difference from the surrounding population, but none in complexion, stature, or features; and he appeared equally beardless at a distance, but it was found, that pains had been taken to preserve a few very long scattered hairs. I am uninformed as to the precise origin of the Malay-Muslim priests, who, together with the chiefs, are apparently of mixed descent (perhaps even having a tinge of Abyssinian), but among the mass of the Sooloo people, I could find no evidence of the presence of a foreign race. Commencing at Caldera, these were the first traces met with in our progress westward, of Muslim institutions, and of the Muslim system of government.

On the morning of the 5th, a well armed party, including four marines, proceeded in two boats to the island outside the harbour. It was found to be composed of coral, surrounding a knoll of trap rock some three hundred feet in height. The day was spent to advantage, so far as concerned researches in natural history: the knoll had been ascended, and we were about leaving, when it was proposed to touch at the further end of the island. We accordingly landed again, and on resuming our avocations, the voice of chanticleer announced unexpectedly that the island was inhabited. Our marines, accustomed to the manners of the islanders of the Pacific, were pleased with the idea of procuring refreshments; others were desirous of an interview; and for myself, I followed, although better aware from yesterday's experience, of the kind of reception we might expect.

The village, which had been concealed by the mangroves, presented the novel appearance of a cluster of houses in the middle of a lagoon, built on posts, and accessible only to canoes. We continued our walk to the outlet of the lagoon; but no one came near for some minutes, the sound of voices giving evidence of a consultation. At last, a man approached in a canoe, but kept aloof until he was joined by a second canoe containing three persons; when they all landed without hesitation. I offered some trifles, but they seemed hardly to know what to make of them, or whether to accept them. An old man in the rear, prompted apparently by some remaining feelings of benevolence, made motions to us to go away. Another of the party was less equivocal, making grimaces as he held a drawn kris, and pointed to his spear; all which we took in good part; and even this individual seemed mollified as I handed him a small present. It was evident, however, that there would have been little difficulty in bringing these people to the last resort; and as this did not enter into our plans, and also as reinforcements were arriving, we commenced retracing our steps. The natives seemed now in better humour, and invited us to return; but having once parted company, there appeared no sufficient inducements for a renewal of the acquaintance. Something indeed had been said about the Sultan; and it was true, we were intruders, having landed without his permission.

These people did not appear to differ from the rest of the population in the vicinity; and I do not know to what particular class they are to be referred. They may have been BIAJU, or "people of the sea;" but they were certainly not tattooed. Their profession was evidently that of fishermen; and they were probably a fair specimen of the population of the numerous small islands scattered over the Sooloo Sea.

The inhabitants of the capital, according to Hunt, "came originally from Banjar-masin," on the southern coast of Borneo. All accounts, however, agree in the piracies being carried on by the LANUN of the great southern bay of Mindanao, who frequent this place for the purpose of disposing of their wares. If there were any of the Lanun present at the time of our visit, we did not distinguish them.

The "jobas" or interpreter, according to his own account, belonged "to the island of TERNATI, and was called a Dutch-

man and a Christiano:" in physical race he was evidently pure Malay. Although quite young, the extent of his acquirements in the way of languages was remarkable; and he wrote also in the Arabic character with great ease and beauty. He too was held for ransom; but being so useful a person, we feared much for his prospect of a speedy release.

On the 6th, the Vincennes left Sooloo, and a few hours afterwards we passed more coral islands, similar to those of the Pacific, but with the trees too tall and dense to allow a view of their Interior. On the following day, we passed KAGAYAN SOOLOO, an island of some importance, and much resembling Sooloo, but smaller. According to our native pilot, it is inhabited, as well as all the islets we had seen, "and by very bad people."

On the 8th, the Vincennes anchored at the MANGSI Islands, small coral patches situated between the extreme points of Palawan and Borneo, in the middle of the Balabac Passage. They were uninhabited at the time, but bore various marks of visitors. A Casuarina tree (the club-wood or iron-wood of the Pacific) was growing near the remains of a habitation, where it had evidently been planted: and the fact seemed the more interesting, from the geographical position in this main oceanic pass between the East and West; while on the other hand, the plant is so rare at the Philippines, that Blanco knew of but one instance of its occurrence.* We remained four days at the Mangsi Islands, adding materially to our collections, not only in marine productions, but rather unexpectedly, in plants.

The high island of Balabac was in sight to the northward, and that of Banguey to the southward of the anchorage. Near the last named island, one of our surveying parties "saw some natives, who manifested intentions of an attack, but who appeared much afraid of fire-arms." Our pilot stated, that "these people were very bad, but that those of the mountains were worse, eating men, and having tails;" and he measured with his hands a space of more than a foot, as the length of this appendage. Such a curiosity, if it really existed, would hardly have escaped the European

* See Blanco's Flora of the Philippines.

Establishment formerly in the vicinity: but I had not before met with a locality for this well-known legend.

The coast of Borneo is said to be low, and we did not get sight of it either before or after leaving the Balabac Passage. Continuing our voyage, we saw no land until we reached the two islets of Pulo Aor and Pulo Pedang, which are lofty and covered with woods, but are of small dimensions, and are situated near the southern extreme of the Asiatic continent.

d. *Singapore.*

Shortly afterwards, we arrived at Singapore. The Malay population was here lost amid a crowd of strangers, principally from China and Hindostan; but individuals were occasionally met with, and the original Malay village at the further end of the harbour, was still remaining. The inhabitants were nationally MALAY; this term, in a strict sense, belonging to one only of the East Indian tribes. The houses were built on posts, in the same style of architecture as at the Philippines; and even in this native village, the Chinese appeared to be the principal shopkeepers and artisans.

The original population had, however, found a congenial occupation in the exclusive management of the light "sampans," the passenger-boats, which have been so much admired, and which, with some similarity in the arrangements, form a decided improvement on the Manila canoe. Malay labourers were also seen on some of the plantations of the vicinity. Notwithstanding the unfavourable reports in respect to character, and the general preference given to Manila men, the proper Malays appeared to me to have an air of greater self-respect, and to be in a more advanced state of society than the general population of the Philippines.

The Malays are all Muslim, and are so strict, that they would not take any part in the celebration by the Indian Muslims of the 21st of February, "regarding it as a corrupt proceeding." Malay bearers had, however, been secured for the shrine, as was said "to be usual on occasions requiring any extra amount of labour."

The language of this tribe has become the general medium of communication throughout the Archipelago. But if, like other East Indian languages, it ever had a peculiar alphabet,

this has long since been replaced by the Arabic letters. An extensive and important collection of Malay manuscripts was procured at Singapore, through Mr. North, of the American mission.

In one respect, Singapore offered novelty; for man was now no longer the undisputed "lord of creation." One of the local advantages, urged at the time when the English selected this spot, was the "absence of wild elephants and tigers;" but it appeared, in the sequel, that the island presented no attractions to the latter animal, until a city had been built. The invasion took place about six years prior to our visit, doubtless by swimming from the main land, which is at no great distance. The number of persons who have since "been taken by tigers, amounts to some hundreds;" there being scarcely any other kind of prey; and instances sometimes occurred within two miles of the centre of the city.

It was said that these animals "attacked in the daytime, though perhaps more frequently at night; but they were not apt to come out into the main road, or to fall upon a palanquin and horse. Such a thing as a tiger pouncing upon a man without killing him was unknown at Singapore; although it sometimes happened, when several persons have been in company, that the tiger has been immediately frightened away. There were persons who made a profession of killing tigers, and government had been paying a premium of a hundred dollars for a head, but having recently reduced this to fifty, the business was for the present at an end:" in reference to these prices it should be observed, that the value of money here is fivefold greater than with us. In the wildest recesses of North America, the traveller may throw himself upon the ground to pass the night; not so in these countries; where, without disparagement to the rifle, I may state my belief, that it would not prevail. Tigers, however, require covert; and they will disappear whenever the island shall be cleared of woods, an event not likely soon to take place. Under present circumstances, there is little difficulty in keeping out of their way; and European residents, by observing certain precautions, do not much regard them.

An important moral effect has been produced by this

state of things. "A decided diminution of crime has taken place," owing to the circumstance that thieves and other criminals are deprived of their former resource of escaping to the woods. A raja of Celebes was said to have been so impressed with the advantages of such a system of police, as to have seriously "entertained the idea of introducing it into his dominions."

The tiger, though perhaps inferior in strength to the lion, is, in respect to the human family, a far more formidable animal. It may even be said to rule in a good measure those wooded countries in which it has obtained footing, such as Java, Sumatra, the peninsula of Malacca, the Indo-Chinese countries, and a portion of Eastern Hindostan. In Western Hindostan, so far as my recent tour extended, the true tiger appeared to be unknown, the country being in general open; but in the thick woods towards Bengal, we read of a district where "villages have been sometimes broken up by the ravages of tigers."

The BUGIS of Celebes, now the dominant tribe or nation in the East Indies, "resort in great numbers to Singapore at a certain season of the year. Some, however, are present at all times; and as they are distinguished from the proper Malays, only by a slight variation in costume," I may have unwittingly seen some of them. They are strict Muslims; and Celebes appears to be the most eastern point from which pilgrimages are made to Mecca.

Several Bugis manuscripts are in the collection obtained at Singapore; and a font of Bugis type had been prepared at the American Mission press; but the national literature, so highly prized among the people themselves, remains unknown to Europeans.

After leaving Singapore, we sailed through land-locked channels, and in sight of the Dutch factory of Rhio, on the island of Bintang. On the following day we passed several rocky islets, hardly of sufficient importance to be inhabited.

On the 1st of March, as we were entering the Straits of Banca, we fell in with a bark under Dutch colours, that did not pay attention to our signals. On boarding her, the circumstance was explained: the captain being a Malay, together with all his crew, had not understood the language

of a ship of war. Many of the English vessels at Singapore were said to be likewise manned exclusively with Malays.

The eastern shore of Sumatra is low; and the land rising very gently towards the interior, presented everywhere an unbroken forest, without any distinguishable signs of inhabitants. The landscape, as throughout the East Indies, notwithstanding the exuberance of the vegetation, was decidedly more sombre than in Brazil. In the vicinity of the Straits of Sunda, the land becomes mountainous, with clearings and other marks of cultivation, and evidently sustains a dense population; who, I believe, are nationally styled LAMPONG. We saw houses, also small canoes, two of which came off at different points; but as they directed their course to the other vessels of the squadron, I was deprived of a view of the inmates.

We kept near the Sumatra shore, passing islets of little importance, except to the navigator; but we could distinguish extensive clearings on the opposite mountains of Java, again indicating a numerous population. On the 7th, having passed Java Head, we were relieved from the confined waters of the Archipelago, and once more entered upon the open sea.

During our rapid progress through the East Indies, I had little opportunity of noting the prevailing *diseases*. The external marks were rare, owing, perhaps, in some measure, to the concealment usually attending a more advanced state of society. Dysentery is the chief bane of the East Indian climate: "vessels rarely remain any length of time in the harbour of Manila without having it on board;" and Singapore, even, is not altogether exempt from this disease In the Straits of Banca we fell in with a vessel from Batavia, nearly disabled in consequence of the loss of twelve of the crew by dysentery. We experienced in the East Indies a greater difference between the night temperature on the land and on the water, than among the Pacific islands; and a further comparison seems to intimate, that this tendency to gastric affections may possibly form an element in the physical degeneracy of the population.

We were thirty-three days in crossing the wide expanse of the Indian Ocean without seeing land, until we reached the African coast, eastward of the CAPE OF GOOD HOPE.

On landing at Cape Town, I remarked among the population many persons who were obviously of Malayan descent, more or less mixed. I did not, during our short stay, ascertain their precise origin, whether from the East Indies or from Madagascar; and I felt the less interest on this point, as they had been introduced through the agency of Europeans, and all nationality had been lost.

THE INDO-CHINESE COUNTRIES.

The COCHIN-CHINESE were easily distinguished at Singapore by the black national dress. I there had an interview with a highly intelligent young man, who "had been educated by the French missionaries; and who spoke English, and had visited France, where he was a good deal noticed." He readily admitted the defects in the political institutions of his own country; but he seemed resigned. He had been sent to Singapore by his king, in charge of the cargo of one of the two national ships then in the harbour.

It appears, that "a century ago, or more, a French ship happened to be wrecked on the coast of Cochin-China; and the people have continued to copy her model, with great particularity, to the present day." Here, then, was a singular revival of the antiquated European mode of construction; but on visiting these vessels, the workmanship was pronounced, by our naval critics, "exceedingly rude." We were shown a finely-executed chart of the coast of Cochin-China, apparently the copy of some European survey, with the names of places written in Chinese characters. Every individual on board appeared to be physically Malay; and there were no marks of Chinese lineage. In stature, however, they were perhaps inferior to the insular East Indians.

The SIAMESE also frequent Singapore; though there happened to be none present at the time of our visit. They "have likewise vessels of European model, chiefly old English merchant ships which they have purchased, and they employ English commanders." Siam and Cochin-China were then at war, but I did not hear of any naval engagements. The "twins," well known in the United

States, are the only Siamese I have ever seen, and they bear the distinctive marks of the Malay race.

Dr. Betton, of Philadelphia, on visiting BIRMAH, found "the Birmese to belong to the same class of people with the Malays of the East Indies: the Malay character of the population commencing suddenly a few miles beyond the Eastern mouth of the Ganges. He regarded the *Karens*, however, as belonging to a different race;" and, from the descriptions and figures, they would appear to belong either to the White race or to the Mongolian.

MADAGASCAR.

During my recent visit to Zanzibar, I remarked, among the lower class of the population, four or five individuals who evidently belonged to the Malay race. Two of them were ascertained to be Ovahs from MADAGASCAR; or, as they were here termed, "Ambolambo from Bookin." They were held as slaves by the Arabs. One was a lad of sixteen years, "from Nos Bey," and the other a middle-aged woman; but having been both stolen when quite young, they could give no account of their native country. Their hair was very dense, and they exhibited other obvious marks of the unmixed Malayan. This resemblance was admitted by Europeans present; and it appeared, also, that the Arabs had remarked the identity in physical race of the Ambolambo and the East Indians.

The survey of the immense series of ocean migrations was here completed; the Malay race having been traced, by actual inspection, from the shores of America, through the Pacific and East Indian islands, to the immediate vicinity of Africa.

OTHER MALAYANS.

About two years previous to my visit to Zanzibar, "a canoe, from the MALDIVE Islands, drifted near enough to the African coast to be picked up and brought in by a dow. There were several persons in it;" and Mr. Waters was first led to make inquiries respecting them from their peculiar personal appearance, and he termed them "Malay-looking people." Various interesting subjects being connected

with the question of the physical race of the Maldive islanders, I regret that I have nothing further to add to the published accounts, which are far from satisfactory.

Mr. Williams, of the American mission in China, found, on visiting CEYLON, "a Malay expression of countenance among the Cingalese; a class of the population who, by their own account, are 'diminishing in numbers, in consequence of the Tamul people of the neighbouring continent coming among them.' The canoes in Ceylon have outriggers;" a custom which seems derived from the East Indies. And it may also be observed that, judging by the descriptions of the Cingalese, the ambiguity, in respect to race, lies, as with the Maldive islanders, between the Malay and the White.

Among all the people of Hindostan who have passed under my own notice, one individual only offered some traces of Malay mixture,—a Lascar sailor, serving on board the Calcutta steam-boat. To return to Ceylon, I would here notice one source of confusion in the recent introduction of "a regiment of real Malays."

In Upper Egypt, Southern Arabia, and Western Hindostan, a large proportion of the population have the Malay complexion; moreover, the Bedouins of the vicinity of Mocha are often beardless, and have a good-natured expression of countenance; but I was unable, in any of these countries, to detect the physical Malay. It is true, certain individuals, by a change of costume, might perhaps have escaped my notice in the midst of a Malay population; but hardly, I think, the reverse. From Mocha there is direct communication with the East Indies, affording conveyance to pilgrims; and, indeed, I witnessed the arrival of an Arab ship from Batavia: but, in general, the "Malays" spoken of at Mocha, are White Muslims from the Malabar coast.

CHAPTER V.

THE AUSTRALIAN RACE.

THE Australian may be characterised in general terms, as having the complexion and features of the Negro, with hair in the place of wool.

On closer examination, however, other points of diversity are remarked; and I think it will be very generally found that the forehead does not recede as in the Negro, an unusually deep-sunk eye giving it rather the appearance of projecting. The eye, at the same time, though uniformly small, is uncommonly piercing. With regard to other races somewhat approximating in personal appearance, the genuine hair will at all times distinguish the Australian.

About thirty Australians came under my own observation, who neither had the lips so uniformly thick, nor the nose so much depressed, as in the Negro; but in certain instances both nose and mouth were wider. Some individuals were of surpassing ugliness; while others, contrary to all anticipation, had the face decidedly fine; and several of the young women had a very pleasing expression of countenance. The general form, though sometimes defective, seemed, on the average, better than that of the Negro; and I did not find the undue slenderness of limb which has been commonly attributed to the Australians. Strange as it may appear, I would refer to an Australian as the finest model of the human proportions I have ever met with; in muscular development combining perfect symmetry, activity, and strength; while his head might have compared with an antique bust of a philosopher.

The Australian complexion appeared to me fully as dark as that of the Negro; but I did not institute a critical comparison, neither did I see the two races in company. The hair seemed rather coarse, and instead of being perfectly straight was usually undulating, or even curling in ringlets.

The head was by no means deficient, though less abundant than in the Feejeean.

For characteristic representations of Australians, I am hardly willing to refer to any except those in Mitchell's Tour, and the portraits taken by Mr. Agate; among which latter I have been most pleased with that of Bamboro-kain. The coloured figures in the French Voyages are deficient in that depth of hue which at once arrests attention in the Australians; the best I have seen is the full-length portrait in the "Voyage aux Terres Australes." Natives in a state of starvation may have borne some sort of resemblance to the delineations given in most publications; but, in general, these have appeared to me simply caricatures.

EASTERN AUSTRALIANS.

On leaving the Samoa Islands, in 1839, the vessels of the Squadron proceeded to New South Wales; and arrived at SYDNEY at the close of the month of November. An hour after landing I happened to meet an aboriginal in the street, wearing the European costume, but who was instantly recognised; and this single example seemed to dispel all danger of subsequently confounding the Australian with any other race of men. In short, I soon found, that while persons at a distance are doubting and disputing, at Sydney every one knows that an Australian is not a Negro.

Among other attentions shown us by residents, an invitation was received from Mr. W. Stephens, to visit his estate at Peuen Beuen, near the source of the HUNTER RIVER. Mr. Dana and myself accordingly went on board the steamboat, on the evening of the 2nd of December; and after a night at sea, we entered, on the following morning, the estuary of the Hunter. The channel led for many miles directly towards the interior; and, near the head of tide-water, where the breadth was inconsiderable, we obtained a sight of a native *canoe*. This appeared to have been formed, without much art, from the hollow trunk of a tree; but I may have been deceived in this particular, as I believe bark is the usual material of construction, most of the Australian timber sinking in water. The natives are said to make a rough bark canoe without much trouble, whenever occasion may

require; but their canoes are suitable only for a placid surface, and the Australians do not appear to venture upon the open sea, either amid the heavy waves of the Southern Ocean, or in the comparatively quiet waters along the northern coast.

The occupants of the canoe, a man and his wife, crossed the water, and were afterwards seen strolling along, attired in worn-out European clothing. At our place of debarkation three or four other natives were seen; and one of them, who held some implements of warfare, announced himself in English, as "king of the country." On inquiring further respecting his place of residence, he added, that "he lived in his master's kitchen."

Although the range or territorial limits of the different Australian communities are carefully observed, the idea of any ownership in the soil does not appear to have occurred to these people. They neither at any time resisted the newcomers from Europe, nor did they withdraw from the contact; but they continue to ramble over their old domain, complaining only of the disappearance of the kangaroo. For this loss, which they attribute to the "White man's kangaroo (the sheep and bullock) having driven away their own," they consider themselves entitled to indemnity.

On the frontiers, the natives doubtless occasionally spear the cattle; though it was evident that they have been far more sinned against than sinning. They have further been peculiarly unfortunate in being exposed to the contact of such a class of people as the escaped convicts.

According to common report, "the natives cannot be induced to cultivate the soil, and are equally averse to all other kinds of labour;" but in the towns I met with one or two individuals who appeared to be engaged in some occupation. I am not aware, however, that any instance is on record of an Australian being employed as a mariner.

A striking difference from the aboriginal Americans, and perhaps from all other known people, is found in the absolute rejection of all innovation by the wild communities. European customs or articles of manufacture do not make the slightest progress among them, and relations of commercial intercourse continue altogether unknown.

In a region which has not added to the list of esculent

plants, it does not appear surprising that cultivation should be unknown; especially as the soil rarely affords the capability. Moreover, such is the forbidding character of the natural vegetation, that this contributes very slightly to the sustenance of man; and I have sometimes doubted whether any different branch of the human family could have maintained its existence on the slender natural resources of Interior Australia. The original population, notwithstanding its sparseness, was yet in proportion to the means of subsistence; and the European accession has been owing solely to the introduction of sources of supply previously unknown.

The Australians are strictly in the "hunter state," deriving their subsistence from game, and from the spontaneous productions of the country; and they can only be compared with the hunting tribes of America. The parallel, however, is not very obvious; and the Australians appear almost as anomalous as the inferior animals and plants of the same quarter of the globe. They have commonly been placed at the bottom of the scale of civilisation; yet in the few arts in their possession they have displayed singular ingenuity: for instance, in the method of ascending trees by making successive notches; the "throwing-stick" for the light javelin; and especially the boomerang, the curved missile whose devious course remained so long the subject of incredulity. Their manufactures, indeed, are chiefly confined to their peculiar weapons, which serve both for warfare and the chase. They also use defensive armour, the light oblong shield, which is rendered efficient only by the height of skill and activity.

Coming from among the Pacific islands, I was surprised at the facility with which the Australians acquire the English language, and at the correctness of their pronunciation. The latter circumstance is doubtless attributable chiefly to the frequent occurrence of terminal consonants in their own languages. "A child educated at a school in Sydney showed intellectual capacity equal in every respect to that of his European companions." A difficulty, however, had been experienced in undertakings of this sort, in consequence of the mothers "returning to claim and carry away their children."

Half-breeds must be rare, as I did not meet with an instance; but some were spoken of; and native women were occasionally seen accompanying the wagons from the Interior.

There are no proper mountains in sight from Peuen Beuen, but only gently rolling hills, perhaps six hundred feet above their base. The "New England" district to the northward, and nearer the Tropic, was spoken of as being elevated, and as sometimes visited with falls of snow, which are nearly unknown at Sydney. After remaining some days at Peuen Beuen, without, however, seeing natives, we set out on our return. On the 9th, we stopped at Bauman's estate, at the only house near the road for a distance of about thirty miles. Great numbers of sheep were here pastured, the Australian climate having been found peculiarly adapted for the production of the finer qualities of wool.

Much was said of the ravages of the "native dog," or rather Australian wolf; for, although the animal is somewhat at variance with the zoological character of Australia, I could not learn that it is ever the companion of man. The only specimen I ever saw was kept in confinement; and I found other reasons for suspecting that it is a peculiar species. If these inferences are confirmed, the Australians will be found to be destitute of domestic animals; a circumstance, perhaps, fairly unique. Indeed, I know of no other branches of the human family that are thus situated, besides the inhabitants of a few detached coral islands, and possibly the Californians of Sacramento.

Continuing our journey, two natives were seen in the distance, who were shouting, occupied apparently about a particular tree; but we did not go near them. Being in their original state of nudity, I supposed at the time that they belonged to the wild communities; but I was subsequently informed that the locality was not far enough in the Interior. In Australia both sexes are destitute of clothing; and here we have a people of whom it may literally be said, that "they know not that they are naked."

On the 16th we again reached Sydney, where I remained until the 8th of February; most of the time, however, confined to the house by illness. The only other natives I saw were begging, sometimes two or three in company, in the

streets. I must refer the reader to the Narrative and Ethnography of the Expedition, for various interesting particulars respecting the Australians; involving, among other matters, the absence of any proper form of government, and of the idea of attributing superiority to one man over another.

NORTHERN AUSTRALIANS.

A great uniformity in the habits of the people appears to prevail throughout Australia; and it is only in the extreme north-east, in the immediate vicinity of TORRES STRAITS, that any important variation is known to take place. In this quarter Flinders observed the use of "the bow; and he met with some individuals in the Gulf of Carpentaria, who appeared to have been circumcised; but further west the usual Australian weapons again made their appearance." A missile club, analogous to the Feejeean, is represented in the "Voyage aux Terres Australes," but belonging, I think, to a different part of the continent.

The source of these innovations may readily be divined: but a greater one was found by Flinders at the *Murray Islands*, immediately within the Straits; "the cocoa-nuts, bananas, and joints of bamboo filled with water, that were brought off by the natives," showing a knowledge of agriculture; while, at the same time, no physical difference from the continental Australians appears to have been remarked.

There are other reasons for supposing that the Australian race does actually extend among the little-known islands of the same vicinity. All visitors speak of seeing straight-haired individuals among the natives of the LOUISIADE; and one of the figures of the natives of Eastern NEW GUINEA, contained in Belcher's Voyage, seems to correspond with the Australian.

It seems also probable that, as we become better acquainted with this portion of the globe, there will appear less isolation in the customs of the Australians. We can at present refer to various connecting circumstances: to the use of a throwing-stick for the javelin, in Eastern New Guinea, in New Britain, and even in New Caledonia; to the oblong shield or buckler, worn in the Louisiade and around Dampier's Straits; and also to some corresponding methods of dressing the

hair. Some words, too, appear to be in common: thus, "dundu" (the Australian name for the black swan) occurs in New Britain, where, according to Morrell and Jacobs, it is applied to a species of emu or cassowary.

TASMANNIANS.

We come now to the controverted point of the physical race of the natives of Van Diemen's Land, situated to the southward of the continent. They were spoken of at Sydney as readily distinguishable from the Australians by their "woolly hair; peculiar, however, in its texture;" and, at the same time, all idea of affinity with the Negro race was rejected.

Mitchell has some observations on the Tasmannians, and concludes in favour of associating them with the continental Australians; and this opinion seems the most probable. Indeed, the portraits of Labillardiere would have much weight with me, as they exhibit very decidedly the projecting forehead of the Australian. Not being aware of the presence of a Tasmannian in Sydney, I lost the opportunity of seeing him: those who were more fortunate were unable to recognise any resemblance in the Feejeeans, whom we shortly afterwards visited.

OTHER AUSTRALIANS.

It is hardly probable that I have met with the Australian race in a different quarter of the globe; but the personal appearance of two individuals, seen at different times, so strongly reminded me of it, that I have concluded to mention the particulars. The first instance was that of a "Calcutta man," who commanded one of the schooners plying among the Hawaiian Islands. He came on board the Vincennes in company with two Chinese, when the inferior stature of all three became very striking in the midst of our men. His complexion, I noted at the time, was "as black as the darkest Negro we have on board;" the features, too, were similar to those of the Negro, but the hair was entirely like that of Europeans.

The other individual referred to was seen by me when travelling in Western Hindostan. I here fell in with

several of the immense droves of bullocks, owned and accompanied by the Brinjarry women, who, with their husbands, evidently belonged to the White race. On one occasion I was surprised to see, as I supposed, a Negress among them; but I was immediately corrected by my Parsee attendant; who added, that "many of them are like this woman;" and, on a nearer approach, I perceived that her hair was perfectly straight.

In connexion with these two examples, I would refer to the reported existence of a tribe of blacks in the vicinity of Lake Zurrah, in central Persia; and also to the description by Herodotus, of the "Asiatic Ethiopians."

CHAPTER VI.

THE PAPUAN RACE.

THE term "Papuan," notwithstanding some ambiguity, may be conveniently applied to a race of robust blacks, of whom the only examples I have seen (with probably one exception), have been the natives of the Feejee Islands.

So far as my observation extends, the Papuan race differs from the rest of mankind in one remarkable physical peculiarity, the hardness or harshness of the skin. This point long since attracted the attention of those Tonga people,* from whom Mariner derived his accurate notices of the Feejee Islands. It is proper to add, that I have not examined the quality of the skin in the Negrillo race.

The hair of the Papuan is in great quantity, is naturally frizzled and bushy, and so coarse as to be rather wiry than woolly. When dressed according to the Feejee fashion, it forms a resisting mass, and offers no slight protection against the blow of a club. I have had occasion to remark that it actually incommoded the wearer when lying down; and to this circumstance, rather than to any foppery, I am disposed to attribute the origin of the wooden neck-pillow. The beard does not appear to grow so long, or to cover so

* See Mariner's Tonga Islands.

large a portion of the face as in the White race; but the Papuan exceeds the remaining races, in the quantity of beard.

The complexion is of a deeper shade than in the Malay race, but is much the same as in the Bengalee or Telingan. The features in many respects resemble those of the Negro, but the lips are not quite so thick, and the nose is somewhat more prominent; while a very general elongation of the face imparts a different aspect. I did not meet with a really fine head among the Feejeeans, but the countenance was often grave and peculiarly impressive; and I had frequent occasion to remark, that strangers did not readily forget the features of Veindovi. In average stature, the Feejeeans were found to exceed the White race; but they fell below the men of Tonga and Samoa.

The profile in general appeared to be as vertical, if not more so, than in the White race; but this, I find, is not confirmed by the facial angle of the skull, and it may possibly be accounted for by some difference in the carriage of the head. The Feejeean skulls brought home by the Expedition, will not readily be mistaken for Malayan; they bear rather the Negro outline; but they are much compressed, and differ materially from all other skulls that I have seen.

For characteristic representations of the Papuan race, I would refer to Labillardiere's "man of Beaupré," and "woman of New Caledonia." Also, to the portraits taken by Mr. Drayton and Mr. Agate; particularly those of Tanoa, Veindovi, Tui-Mbua, Thokanauto or Philips, Ko-Mbeti, and the girl with stained hair.

FEEJEEANS.

a. *Tongataboo.*

A dark race, having been long known to occupy New Guinea and some of the neighbouring Pacific islands, I did not, at the time of our leaving Sydney, doubt its being the Australian. Indeed, the personal appearance of the four Feejeeans seen at TONGATABOO, hardly led to any satisfactory conclusion. One of them, a warrior, particularly attracted my attention; and after my subsequent experience in regard to the Feejeean character, I can revert more understand-

ingly to the circumstance. He was arrayed on the side of the Christians, yet he had no interest in the quarrel, no sympathies with the surrounding population: what, then, was the secret motive that had prompted him to pursue far away from his native land his dangerous vocation?

He and another warrior had doubtless arrived in the Tonga canoes, by the same mode of conveyance as the individuals met with by Mariner and Cook; and these instances form the only ones known of aboriginal wandering on the part of the Feejeeans.

Two Feejeean women had been brought to Tongataboo in an English vessel; and as we were on the point of leaving, they escaped from the shore, in the hope of getting back to their own country; but Captain Wilkes decided not to receive them on board.

b. *Feejee Islands.*

On the morning of the 4th of May, 1840, the Squadron left Tongataboo; and towards the evening of the following day we came in sight of TURTLE Island, which is small and unimportant, except as a guide to the navigator. We rested on our course for the night; but by daylight we had drifted among the other outermost Feejee Islands. Those in sight were small and moderately high; and according to our European pilot, were "destitute of yams, although permanently inhabited."

On the 7th we reached OVOLAU, a small island, that from its central position, and from its being the place of residence of some White men, has become a convenient rendezvous for vessels. The broken and mountainous land, in great part covered with woods, and situated in a moderately rainy climate, presented a varied and most inviting aspect; and we felt that we were now in a part of the world, which, except to a few traders, was very little known.

On the 8th we entered the reef, and dropped anchor before the village of Levuka; and our first greeting was a shout of admiration from the shore, when the sailors suddenly ascended the rigging. Canoes soon made their appearance, moving in different directions, and by a singular method of propulsion: a man standing in the centre of the canoe, held an upright oar, and as he threw his weight upon it from side

to side, seemed actually to walk over the water, and at a surprising rate. At length three or four canoes approached us, one bearing upon an elevated platform the chief of Levuka, who introduced himself to our acquaintance, with the accustomed present of yams.

Independently of the texture of the hair, the people differed strikingly from the Australians in their stoutness of limb, and in the entire absence of graceful forms. At first, indeed, we did not distinguish them from Negroes; and this resemblance was even recognised by Negroes on board; one of whom made use of the expression, "people at home would hardly believe that these were natives." But it was soon perceived, that a Negro in the midst of a party of Feejeeans, presented a marked distinction in colour.

I obtained other evidence of the lightness of the Feejeean complexion; for on scanning with a glass the crowd of natives on the shore, I had supposed one-half of them to be Polynesians; whereas, upon landing, they proved to be all Feejeeans. There seems, indeed, to be much variation among individuals; and on comparing the darkest Polynesians with the lightest Feejeeans, there will probably be found no essential difference in the shade of colour. I sometimes thought I perceived a purplish tinge in the Feejeean complexion, particularly when contrasted in the sunlight with green foliage; and the epithet of "purple men" might be given to this race, if that of "red men" be retained for the Malayan.

The circumstance that first tended to show the diversity from the Negro, was the personal appearance of the children of resident Whites; for they were evidently not "mulattoes." The hair of the Feejeean girls also contributed to remove the Negro aspect. The ashy colour, indeed, was extraneous; but the hanging locks, although always somewhat crisped, proved that the erect mode of wearing the hair, and its woolly appearance in grown persons, were partly the work of art. Inquiry being thus awakened, careful observation soon led to the conviction, that the Feejeeans belong to a peculiar physical race.

As evidence of the prevailing stoutness of limb, the instance may be mentioned, in which the measure of a Feejeean's leg was found to encircle three united of three of our men. Another physical peculiarity was remarked, in

the frequent examples of unusual shortness of neck. The tallest Feejeean met with measured six feet six inches, and he was tolerably well proportioned, though more slender than his companions. It was stated on good authority, that there were Feejeeans who exceeded in size any of the Tonga men; but so far as my own observation extended, the average stature was less.

One of our first inquiries on landing regarded the safety of travelling; and we were informed, that "we should be entirely secure within the territory of the chief of Levuka." It appeared, however, that his dominion included part only of the coast of this small island; while the interior was held by independent mountain chiefs.

On my first excursion to the woods, at no great distance above the village, I came upon the lair of a "mountaineer;" an impression left on the herbage, by reclining to watch a small crop of upland taro. The man had fled, and with the other mountaineers of the vicinity, kept out of sight; having been forewarned, "by putting the ear to the ground," of the approach of footsteps. Next to the indiscretion of travelling alone in these islands, the visitor soon learns not to precede his guide.

I soon began to perceive the resemblance of the Feejeeans to Labillardiere's portraits of New Caledonians; and a further acquaintance with the people presented novelty at every step. Points connected with their personal appearance first arrested attention; as the presence of wigs, and the variety of colours imparted to the hair. Of these, the flaxen or ashy tint alone appeared to be the result of a process of dyeing; while the coal-black and the red were derived from the mixture of foreign substances. Among a variety of fashions, the men sometimes wore very numerous slender braids; and though I saw nothing to justify the report, that "the Feejeeans count the separate hairs," the attentions bestowed on the head-dress occupy no inconsiderable portion of their lives.

The seeming absence of tattooing was at first attributed to the circumstance that the Feejee complexion is too dark to show the markings conspicuously. It appeared, however, that the women have the practice, and cover the markings by the dress. Ornament and national designation are in this

case out of the question; and the reasons assigned by the Feejeeans are probably not more reliable than their tales respecting circumcision and the removal of a finger-joint. Tattooing occurs among the modern Arabs, derived apparently from certain nations of antiquity; and there seems every probability, that the custom originated with a light-coloured race. The question will acquire further interest, if it can be made to appear that in this one instance the Feejeeans have borrowed a custom from the Polynesians.

In many instances, the women were further marked on the arms and upper part of the breast with elevated scars; such as have been observed to replace tattooing in other countries where the complexion is very dark. These scars had sometimes the form of stars, or of concentric circles.

With the change in complexion, a change had taken place in national taste in regard to colours; yellow, the favourite with the Malayan race, giving place, among the Feejeeans, to vermilion-red. White seemed in some measure a rival; for the lace-like tapa covering the hair of the men in the semblance of a turban, together with the belt or sash completing their dress, were invariably white. By a coincidence showing actual accordance with the complexion, red and white were subsequently found to be the favourite colours with the equally dark Telingans of Hindostan; and were used almost exclusively in the dress of those seen at Singapore. Another difference in Feejeean taste consisted in an abatement of the excessive fondness for flowers, which is manifested by the Polynesians.

Many differences from the Polynesians, involving even traits of character, may be traced to another physical cause; to the harshness of the skin. The Feejeean does not permit himself to be handled; but there is a mode by which the quality of the skin may be conveniently examined. Indeed, I was often amused at the readiness with which the people would present themselves to have their faces touched with vermilion: the fears of the children would vanish, and grave-looking dames and their haughty lords, would submit to and approve the process.

The Feejeeans again, unlike the Polynesians, rarely anoint themselves with cocoa-nut oil; but I saw this practised in one or two instances. A woman of rank, who was awaiting

the return of her husband, had her face marked with irregular lines of clay. I heard nothing of the practice of shampooing; though, it is true, I did not make particular inquiries on the subject. In caressing their children, the Feejeeans agree with the Polynesians, in touching noses, and not the lips.

The balance-beam is absent; and leaving aside the example of the Polynesians, the circumstance will be found to tally with the practice of the Hindoos and ancient Egyptains; for the Feejeean men are not the regular carriers of burdens. The armlets (made of the outer rim of the large Trochus), although worn by the men, offer also a seeming connexion with the Hindoos and Arabs. I found the lobe of the ear perforated, in both men and women, the opening being sometimes enlarged to about an inch in diameter. The necklace of small shells was said to be "reserved for women of rank."

The Feejeeans practise a remarkable method of climbing cocoa palms. By applying the soles of the feet to the stem, with a hand on either side, they literally walk up on all fours: a feat which I have never seen accomplished by persons of a different physical race.

In addition to the Polynesian implements of war, the Feejeeans use a short missile club; which may be regarded as the national instrument of assassination. The men habitually wear one, stuck in the belt behind. The bow is used in warfare by the Feejeeans; and they have great skill in throwing the javelin; but their battles are principally decided by their favourite weapon, the large heavy club.

Among the musical instruments, one not previously seen, (but well known in the East Indies,) the syrinx or Pipe of Pan, made its appearance; and the nose-flute was more common than among the Polynesians. Indeed, we soon began to perceive that the people were in possession of almost every art known to the Polynesians, and of many others besides. The highly-finished workmanship was unexpected; everything being executed, until recently, and even now for the most part, without the use of iron. In the collection of implements and manufactures brought home by the Expedition, the observer will, I think, distinguish in the

Feejeean division something like a school of arts for the other Pacific islands.

The origin of Polynesian circumcision was now explained; and various other customs, which had previously appeared unaccountable, were found to rest on physical causes, having been extended abroad by the process of imitation.

The personal aspect of the Feejeeans is unprepossessing. But all residents concur in regarding them as "a far more ingenious people than the Polynesians." They employ a greater variety of improvements in domestic economy, are better cultivators, and are even more skilful in the management of a canoe. In architecture, the Feejeeans have made no mean progress; and they are the only people I have seen, among those classed by Europeans as "savages," who manifested a taste for the fine-arts; while, as with the ancient Greeks, this taste was universal.

The esculent plants of the Polynesians occur equally at the Feejee Islands, and in general are cultivated in greater variety and perfection. The only apparent exceptions were: the *batatas* or sweet-potato, which we did not meet with; the *vi-apple* (Spondias), heard of in but one locality; and the *banana*, as there seemed to be fewer varieties of it than at Samoa. To counterbalance these deficiencies, roots and fruits, unknown at the more eastern islands, made their appearance; and, indeed, the number of cultivated plants is found to increase with great regularity, on receding from the Hawaiian and approaching the Feejee Islands.

Fish, in variety perhaps unexampled, are procured by the people of the coast; and by means of numerous devices, among which the Samoan method of frightening was mentioned. Some of the Feejeean nets and seines are of exceedingly neat workmanship; and others are of coarse material, for capturing turtle. Shell-fish also exist in great variety and profusion; and a peculiar large species of crab abounds in certain localities. A small whitish Holothuria, proof against other than Feejeean powers of mastication, is sometimes used for food; but this did not appear to be the case with the species of commerce, the "biche-le-mar." Fowls are abundant; but pigs and turtle are reserved for feasts. In times of scarcity, recourse is had to the large Arum (C. macrorhiza), which is cultivated in certain

localities; and even to the fruit of the Bruguiera, a species of mangrove.

Dried squid (Octopus) were once met with; but otherwise I saw no cured meats. Salt is readily obtained from sea-water, but the Feejeeans use very little; and they uniformly manifested dislike on tasting our salted provisions. Spirituous liquors do not meet with more favour, although tobacco in one locality was making some slight progress.

Cooking is not, as with the Polynesians, conducted exclusively by the use of heated stones, and in the open air; but articles of food are steamed rather than boiled, in earthen pots. *Yams* constitute the principal support of the population; and are kept for months in elevated storehouses: a paste is likewise prepared from them which resembles the fermented bread-fruit of Taheiti, and in like manner "is deposited in the ground." The Feejeeans have besides a variety of compound dishes. They dwell in the midst of abundance; and it has been truly remarked of them, that "no people in the South Seas could live more comfortably and happily, but for their continual treachery towards each other."

On the 12th, I witnessed the landing of Tanoa, of Mbau, the most powerful of the Feejee chiefs. The Levuka chief with a party of attendants were on the beach to receive him, and remained squatting close to the ground until he had passed by. It is the rule, when two canoes meet, for the person of inferior rank to have the outrigger in a particular position; and, indeed, it will be difficult to find another nation so observant of etiquette as the Feejeeans.

On meeting with Captain Vanderford, Tanoa said, "that he himself should not die while his old acquaintance was alive:" this supposed union of destiny being a common superstition with the Feejeeans. Tanoa had formerly protected Captain Vanderford and his companions when wrecked at Mbau; but not to violate further the custom of the country, he connived at the robbery of all the property, after it had been placed in his own house.

For the particulars of the reception of Tanoa on board the Vincennes, I must refer to the Narrative. I would add, however, that he was at first disconcerted at the unusual

display, apparently dreading some more substantial evil. He was also greatly astonished at the noise of the cannon, and the effect of the shot upon the water; but, unlike his retinue, he manifested terror rather than approbation, and at his request the firing was discontinued. I remarked also that after some discussion among themselves, one of the natives set about taking the dimensions of the Vincennes.

Tanoa's life had been an eventful one; and owing apparently to the regard for his personal character, he had been allowed to exceed the usual limit of years. He had become, however, quite timid, and with reason; for in a country where natural death is scarcely arrived at by the common people, the precarious state of royalty may be imagined. Indeed, it was said, that his son at times, did not scruple to remind him of the Feejeean privilege.

A general system of parricide was a novel social institution; but where the quantity of food is fixed, one result will be perceived to follow: an increased proportion of persons in the prime of life, "for the service of the state."

Every Feejee village has a sacred house or "mbure," constructed with more care and more regard to architectural taste, than the ordinary dwelling-houses. The name shows a connexion with the "morais" of the Polynesians. Women are excluded from the Feejee mbures; which are used by the men as places of public resort, and around which they are often seen lounging. Strangers are entertained and lodged, and kava-drinkings and feasts are held in these houses. It was reported that on some occasions, a sort of "grace" is sometimes pronounced, and a great variety of toasts and compliments interchanged.

At Samoa, we had seen women only employed in the preparation of kava; but here the process "is conducted exclusively by the men." The kava-bowls are shallow, and of the same general pattern as the Samoan, but are much larger and finer; indeed they cost so much labour, and are so highly valued, that it is no easy matter to procure one. A specimen is, however, contained in the museum at Salem.

There was also at Levuka a small high-pointed building, somewhat conspicuous, which contained the Oracle. The Feejeeans possess a regular system of mythology. According to report, regard is paid in the selection of their priests

to the capacity of maintaining a voluntary fit of tremor; an instance of which feat I witnessed. Human sacrifices are not unknown, as was shown in an attempt by some Mbau people, on the lives of two women near Levuka, to provide for "the consecration of a new mbure."

The "taboo" is recognised, but I did not meet with any outward tokens of its being in force. Indeed, from the settled character of the Feejee institutions, and some difference in the division of landed property, there would seem to be fewer occasions for its exercise than among the Polynesians.

Everything relating to the procuring and preparing of food, except in part the taking of fish, appeared to devolve upon the women; and I often met them bearing (on the back) enormous loads of firewood and yams. On the other hand, I do not remember to have seen the men carrying burdens, unless when hired (through the chiefs) to bring supplies of wood, water, and provisions, for trading vessels. The men, however, exclusively manage the canoes, which, as well as the houses, they also build; they construct the terraces for taro cultivation, and engage in other details of agricultural industry. These occupations, however, take up a comparatively small portion of their time; and in reference to the prevalence of polygamy, I heard a resident declare, that the care of a Feejee household was "too much hard work for one woman." This custom of the country may not be so easily avoided; for as gifts when refused are destroyed, in the case of the present of a wife, considerations of humanity will place a resident stranger in a dilemma.

European ideas of "loyalty" make but a slight approach to the deep feeling entertained by the Feejeeans towards their chiefs. In this the women appear even to exceed the men; and their devotion to their chiefs was said to be so entire, "that they regard it as an honour to receive death from their hands." No point of difference from the Polynesians was so striking as this political change.

Leaving the Vincennes at Ovolau, the Peacock sailed for the island of VITI-LEVU; and on the 16th, reached the anchorage about six miles below the town of Rewa.

Some English missionaries were established near Rewa. But the ladies could never have anticipated the terrible

sights they had been compelled to witness at the Feejee Islands. Contrary to what takes place in the other countries I have visited, the most experienced residents at these islands invariably entertain the worst opinion of the native character.

The missionaries were assisted, and to some extent protected, by a body of converted Tonga men. The field was most unpromising; and I saw but one converted Feejeean, whose motives, as he was growing old, were not altogether free from suspicion. Mbau not being included among the three mission stations at the Feejee Islands, Tanoa, it was said, would not now receive a missionary unless arriving from abroad.

Rewa appears to advantage when seen from the river on which it is situated; and we were astonished to find, in a country like this, so considerable a town. After the house of the queen dowager, the most conspicuous building was a high and much-ornamented monument, erected on the spot where the late king was assassinated. The dwelling-houses usually rested on a basement, three or four feet in height, constructed of angular stones laid without cement. These had been brought down the river; and timber rafts, also, were seen lying in front of the town.

I visited Ngaraningiou's house, the finest in the place, and which was regarded "as on a par with any other at the Feejee Islands." It was built on the usual plan, and the increased labour had been chiefly expended on the interior arrangements; the timbers being all covered with a layer of rods (stems of the small sugar-cane), and each rod coated with sinnet. The mode of access, was that in common use, by means of a plank, with cross-bars, each of which is made to retain a small quantity of water for cleansing the feet.

On the 20th, we took leave of Rewa, and proceeding down the river, our boat stopped at a village where earthen-ware is extensively manufactured. In a few moments after it became known that we were desirous of purchasing some, a crowd gathered around us with such a superfluity of articles, that we were glad to conclude our traffic and escape from the noise and confusion. In the evening, the boats all rejoined the Peacock.

We had become acquainted with the noted chief, Thokanauto (or Phillips), who was very sportive and agreeable as a companion, and who spoke English fluently. It was said, that he had also "some knowledge of French and Italian, and that he manifested a desire to learn every new language that he heard." He had made a voyage to Taheiti and back in an American vessel, and, unlike the other Feejeeans, he had manifested in his house some predilection for the furniture and fashions of Europeans. He besides owned a small schooner, which had been built by the resident Whites.

Thokanauto was "*vasu*" of Mbau, his mother having been the woman of highest rank in the district, and, in consequence, he had the privilege of appropriating therefrom whatever he fancied. Thus even Tanoa was obliged to send our present of a rifle to a distant part of the group, lest it should be seen and claimed by Thokanauto. So absolute is this regulation, that on the occasion of a battle between the Rewa and Mbau people, Thokanauto actually "supplied himself with ammunition from the ranks of the enemy."

It appears that there are several degrees in Feejeean warfare, corresponding, according to Thokanauto, to the force of the challenge; and only certain expressions of defiance are prosecuted to final extermination. In describing one of his exploits in the Interior, he stated "that the river ran blood:" and from another source, we heard of a battle in which "six hundred persons were slaughtered." It was evident, however, that in their frequent and bloody wars, the Feejeeans are not influenced by views of extending their possessions, according to the European idea of conquests.

Notwithstanding the slippery tenure of Feejee royalty, the honour is sought with a devotion perhaps unparalleled elsewhere. "O yes," said Thokanauto, "me would like to be king; me would like to walk about and say, do this thing, and do that." The path was a very plain one; and in extenuation it may be observed, that the institution of polygamy virtually dissolves the ties of relationship.

A Feejeean king has no scruples in putting a subject out of the way, even on the most trivial occasions: and Thokanauto gave as an instance, the accidental "breaking of a cup." We heard from another source, that the executioner usually

communicates his errand with an harangue, and that the victim submits without resistance or attempting to escape, often simply remarking, that "whatever the king says, must be done." Thokanauto himself had been sometimes charged with such commissions. He acknowledged having killed as many as fifty persons with his own hands. On our explaining to him the rule of European nations in regard to murder, he appeared surprised and thoughtful for a time, and at length exclaimed, "ah! no good law, no good."

He stated that he had been "a very wicked boy," and described some of his juvenile pranks. He admitted that at the same period of life, he had once unwittingly "tasted human flesh, his father afterwards frightening him by producing the hand." Residents however asserted, that he had been reared in no inconsiderable degree upon this species of food, and considering the unusual pains bestowed on his education, such a circumstance is not so improbable as it may appear at a distance. One who has had many opportunities of forming a correct opinion, considered Thokanauto as being "in reality a very cruel man; and as continuing to indulge in the national propensity, although he now takes pains to conceal the fact from Europeans."

On the 21st, the king and queen of Rewa, together with Ngaraningiou and Thokanauto, visited the Peacock. One of our survey-flags having been stolen, the delinquent was now brought to us, already, however, punished by the "deprivation of his house, lands, wife, and all his property." Residents thought that the king was probably "not unwilling to avail himself of an excuse to take the property;" from which it may be inferred, that the regal authority is not unlimited on this point, or at least, that it is exercised with some discretion.

As is related in the Narrative of the Expedition, the royal family were detained by Captain Hudson, until Veindovi should be given up. Thokanauto was apart from the others when the drum beat to quarters, but he at once showed signs of distrust. It was a severe blow to his special interests, Veindovi being a partisan. He, however, put the best face on the matter, and made himself merry about the alarm of the king and queen. A native selling a pig, for which he was to receive a hatchet, Thokanauto said, "Feejee

man fool White man, for the pig is not fat, but me fool Feejee man;" *i. e.* by taking the hatchet himself; but after a while he returned it. Intercourse with the shore being prohibited, one of the canoes alongside got astray, and was on the point of receiving a shot, when it was recalled with the aid of Thokanauto. The two other royal brothers, it was understood, acknowledged privately that "they were afraid of Veindovi, and considered him their enemy." Ngaraningiou was despatched to bring him on board.

Some forty natives remained on board the Peacock; and in the evening, under the direction of Thokanauto, they performed a *dance*, singing in a monotonous tone, and keeping time by clapping hands, according to the well-known Arab custom. The Feejeeans have a great variety of dances, some of them making an unexpected approach to a system of military tactics: and the children even dance with singular precision. Unlike the majority of the Polynesian dances, only in a single instance did I witness one that was indecent.

On the following day, Veindovi was brought on board; and after a long conversation with him, the king took leave. We had proposed carrying Thokanauto around the group, but he likewise went away, evidently a good deal disturbed. The parting of Veindovi from his immediate adherents, was really affecting. They embraced his knees, and some even offered to accompany him, which, for a Feejeean, is no slight sacrifice.

Veindovi's offence was the murder of part of the crew of an American vessel, some years previous. According, however, to his own version of the affair, he was deputed by higher authority; which is not at all unlikely. As an example of the Feejeean idea of justice, I will mention that, subsequently on our arrival at Oahu, Veindovi expressed penitence, declaring, "that he perceived, what he had never before believed, that White men had told him the truth about the houses and customs of civilised countries; and he intended, therefore, on his return to the Feejee Islands, to put to death all those persons who had assisted him in killing the Whites."

The Feejeeans, according to the testimony of residents, are yearly becoming bolder and more dangerous in their schemes for capturing vessels. When successful, the lives

of the crew are sacrificed; and it is highly imprudent, under present circumstances, for an unarmed ship to venture among the Feejee Islands. In seeking to accomplish their purposes, natives have been known, during a stormy night, to climb up the cables of a vessel at anchor. In the recent capture of a French brig, the principal allurement was said to have been, "the sight of some glass decanters."

On the 23rd a Hawaiian came on board, to act as barber to Veindovi. He had been sent by Thokanauto, who placed in his hands the sum of ten dollars, with which to make purchases in America; and the articles wanted were very particularly specified. This man was subsequently transferred to a different vessel, and being thus separated from Veindovi, he concluded not to leave the Feejee Islands.

The Peacock sailed on the morning of the 23rd, and we were for some time in sight of KANTAVU; but being becalmed, the intention of touching there was finally abandoned. We next passed near VATULELE, which presented every appearance of a raised coral island, not so high as Metia, but resembling it on a smaller scale.

On the 26th the Peacock entered the great barrier reefs, on the leeward side of the group; and we obtained a view of the Island of Melolo, which was soon afterwards the seat of a tragedy. Our pilot stated that the inhabitants of this and the other ASAUA islands "spoke a different dialect from the remaining Feejeeans, with whom they were at enmity." The Sinbad-like story of a gigantic bird was likewise referred to the Asaua islands.

The Peacock now sailed for some hundreds of miles behind these reefs, along a narrow passage close to the rocky shores of the two main islands, keeping always in the leeward portion of the group. The face of the country in this portion is in great part bare of trees; and there is less rain than in situations exposed to the south-east trades. We first coasted VITI-LEVU, where the villages, perched everywhere on the hill-tops, plainly indicated the social condition of the district.

Our boats landed a few miles from Mba, but the town was concealed by mangroves, it being evidently situated at the mouth of a considerable stream. We saw no natives;

but in consequence of the bad character of the neighbourhood, we did not extend our walks far from the beach.

On the 1st of June the boats landed at an islet connected with the main land by a shelf of coral, over which a party of natives were seen retreating. We remained on shore for some hours, and made considerable additions to our botanical collections.

On the 2nd the boats landed at a detached islet, not far from the town of Rake-rake. At the summit we found remains of trenches and stone-work, similar to those subsequently seen on the islet near Muthuata. On descending through some open ground we found ourselves suddenly sinking in marshes; and it appeared, on further examination, that the tract was artificially terraced, and had been once appropriated to the culture of taro. The whole vicinity had been desolated by the Mbua people. Its present inhabitants bore the character of being "extremely civil." Some six or eight of them visited us.

The boats landed at another detached islet, situated near the usual point of departure from Viti-levu. This islet likewise contained abandoned plantations; showing that it had once been inhabited.

On the 5th the Peacock crossed over to VANUA-LEVU, the second principal island, and anchored in Mbua or Sandal-wood Bay. During our stay I visited repeatedly the two fortified villages, situated on the middle stream emptying into the bay. They had strong palisades and low gateways, but the ditch did not appear to be planted with stakes, as in some Feejee fortifications.

The canoes "having been chiefly destroyed during the war" which was pending, none made their appearance about the ship. The contending parties were a father and son, who, to outward appearance, were reconciled by Captain Hudson; although, as it proved, his intervention did not lead to any permanent result.

On the 11th the Peacock left Mbua Bay, continuing along the coast of Vanua-levu, and came to anchor in the passage separating the considerable island of Anganga. The natives of this vicinity sustain a bad character; but one of our boats had some communication with them.

On the 12th the Peacock reached Naloa. Captain Eagle-

ston, in the ship Leonidas of Salem, was here engaged in the *biche-le-mar* fishery. The groundwork of success in this occupation, appears to be the hardihood of the Feejeeans in diving, a point in which they excel even the Polynesians. A large drying-house must be built at each fishing station; and the management of the natives, who may work or not as they happen to be in the humour, independent of interruptions from frequent wars and outrages, affords ample scope for the exercise of tact and prudence. Add to this, the state of watchfulness that must be kept up for months; and the conversion of the labour of such a population to general purposes of utility, will demand a place among the most remarkable triumphs of commerce.

Whale teeth are extravagantly valued at the Feejee Islands, and may be regarded as in some respects representing the precious metals. Purchases may be made with them; but they hardly form a "currency," since it is unsafe for a person not of the class of chiefs to retain one. What becomes of the great quantities brought here by traders is a problem yet unsolved. Whales are common among the Feejee Islands; and it seems remarkable that a people so ingenious should not, like the tribes of the northern shores of the Pacific, have devised some method of capturing them.

I visited the village, at a little distance from the coast; and, on the way, I observed some basaltic columns, from which the earth had been removed for the purpose of quarrying them. The undertaking will appear of some importance, when it was considered that beasts of burden and all mechanical contrivances for assisting transportation, are unknown. An old bridge, about two hundred feet in length, consisted of a single line of cocoa trunks, supported by a pile or post at each point of junction.

At another village, built on the islet near the anchorage, young women were seen bearing bamboo stems, on their way to procure water: this was drawn up from an excavation like a well, about ten feet in depth, by means of a cocoa-nut shell fastened to a pole. Other women were employed in pottery, working altogether by hand, but making large vessels of great regularity in size and shape: the resin of a species of Dammara, closely allied to the Kauri of New Zealand, was used for glazing. Some twenty canoes were lying on

the beach, forming the largest fleet met with at the Feejee Islands. I returned from the islet in one of these canoes, with a rapidity unequalled by European sailing vessels; the outrigger being lifted above the water sometimes for a distance of fifty yards.

On visiting the Leonidas, I met with the solitary instance of a Feejeean who was really and generally esteemed by traders. It appeared that an unfortunate "native from another district, who came to assist in procuring biche-le-mar, had been waylaid at night:" fishing operations were in consequence at an end, and Captain Eagleston had concluded to quit the station.

On the 17th the Peacock left Naloa. In sailing along the coast, fires were frequently observed on the hills, having been kindled, it was said, "for burning over the grounds, as the season had now arrived for planting yams."

On the 19th the Peacock reached Muthuata; one of the most important of the Feejee towns. Owing to the close vicinity of the highlands, the mountaineers make frequent visits to this part of the coast. And in reference to the character of the natives, the district was regarded by traders as one of the worst in the whole group.

In front of the town we saw some turtle-pens, which were shallow pits formed within the flow of the tide, and surrounded with stakes. The cattle brought from Taheiti about five years previously by Captain Eagleston, were still remaining. The location seemed a more favourable one for cattle than any part of the windward or rainy side of the group; but I remarked an unlooked-for obstacle in the aromatic properties of some of the most abundant grasses.

On the 24th I set out with a party to ascend the heights, under the guidance of one of the Rotuma men; and we were joined by other inhabitants of Muthuata, who took advantage of this opportunity of visiting, to them, a new country. Before entering the hamlet of mountaineers, situated about half-way up, our guide warned us to have our fire-arms in readiness. We however met with a friendly reception; but there was some unexpected difficulty even here, in finding a person who could direct us to the summit. We at last reached a position near it; and ascertained the height to be about twenty-three hundred feet.

On the 25th I visited the village, which is situated in a low and fertile spot, about two miles back of Muthuata. I was conducted to a house where dinner happened to be ready, consisting, in this instance, of arrow-root made from the Tacca; and using as a spoon a slip of cocoa leaf, according to the fashion of the country, I partook of Feejee hospitality.

On another day, Mr. Peale and myself took a ramble along the coast to the westward, passing, in the first place, through the banana plantation, which, as usual, appeared to be carried on by the joint labour of the village. We proceeded about two miles, to a small stream, where some natives, having formed dams, were engaged in poisoning the fish with the stems of the climbing Glycine. Our Feejee guide would not suffer us to taste the water. I was desirous of purchasing some of the fish, of a woman who was standing a little apart; but, as was usual with the women when away from the villages, she took to flight at our approach. We returned by an inland route, stopping at a cluster of three or four houses, into one of which we were invited, and were offered yams. Our guide, it appeared afterwards, had looked to us for protection in this excursion.

In a country where there is hardly an interchange of friendly visits, and where it is often a hazardous thing to go to the nearest village, it may well be supposed that the inhabitants do not travel much. Geographical knowledge is therefore extremely limited; and I can readily give credence to the allegation, "that many persons on the larger Feejee islands are quite unaware of the existence of the ocean." In this particular there is a wide difference from the Polynesians, who have universally a thorough acquaintance with their respective groups.

On the 30th an excursion was made to another portion of the heights, whence a view was obtained of the interior of the island, a region full of mountains, with some sharp peaks that appeared to be not less than four thousand feet in elevation. In returning, our party passed through another hamlet of mountaineers, and we were invited into one of the houses. The male inhabitants were absent at the time, engaged, it was said, in "cooking a man;" a statement which, although it was not doubted, we did not feel particularly desirous of verifying.

On the 1st of July the Peacock sailed from Muthuata, retracing her previous course. Many on board, finding the natives in their deportment always "timid and obliging," began to have doubts as to their reputed character; and even their cannibalism was called in question, in a discussion the same evening. We might have returned home with conflicting opinions on this point, but on the following morning they who had refused to believe were made to see; and as we were repassing Naloa an incident occurred, for the particulars of which I must refer to the Narrative.

On the 5th the Peacock re-entered Mbua, or Sandalwood Bay, and the Vincennes arrived there a few hours afterwards. The weather, up to this date, had been invariably fine, but a change now ensued, and it continued stormy and rainy for several days.

On the 12th news was received of the seizure of one of our boats, at a place about twenty miles distant; and two natives, who had delivered themselves up on the occasion, were brought on board the Vincennes. While a party was getting ready for the scene of action, Tui Mora proffered his assistance, and proposed "to carry the big guns by land."

On revisiting the two fortified villages, I was surprised at the advance in the season during our five weeks absence, as shown by the various wild shrubs that had come into flower. In the cultivated ground, the banana plants had been stripped of their leafy portions, and the old stocks had been grubbed up, while the soil had in great part been burned over.

Formerly, according to Captain Vanderford, "this neighbourhood was in a much more flourishing condition, when the whole district was ruled by the father of the present king. The Feejee Islands, within his experience, had been generally depopulated, and a marked diminution had taken place in the number of canoes; but the inhabitants were always in a state of war."

In my previous visits to the two villages I had been at some pains to make acquaintances, and I was therefore surprised at meeting with no marks of recognition. This, with a single exception, was everywhere the result of a few days' absence. From the terms on which the Feejeeans live together, it is hardly to be expected that friendship should

exist among them, and indeed I did not witness any manifestations of it.

Where parricide is an established custom, all affection may at first seem questionable; but the institution, in reality, is a sacrifice in favour of the children, towards whom we often remarked various proofs of strong attachment. Feejeean society is highly artificial; and a more intimate acquaintance with the people, will doubtless show less variation than at first appears from the common attributes of the human character. One piece of romance was hardly anticipated: according to Veindovi, "when two fall in love, and the young man, from poverty, is unable to make the accustomed present to the parents of his intended bride, the lovers will run away;" an undertaking which, at the Feejee Islands, is rather serious.

Among the Polynesians we had been everywhere importuned by individuals desiring to be taken on board, to go they knew not whither; but after entering the present group, we were entirely free from such applications. On sometimes speaking with Feejeeans on the subject, it did not appear to be an easy matter to persuade them to leave their homes. Captain Vanderford stated "that he never knew one of them to become a sailor, and that he had invariably found them useless on shipboard." In all which there appears something beyond the mere result of institutions.

Another difference from the Polynesians is found in the existence of strong national pride. The Feejeeans are fully persuaded that their own institutions are superior to those of other countries, and are disinclined to adopt foreign customs.

On the 17th Mr. Brackenridge and myself set out on an excursion to a ridge of mountains, about seven miles back of the watering place. Tui Mora appointed two guides to accompany us, the route being through a district that was under his authority. At the base of the mountains we found scattered houses and plantations, and other unexpected indications of a peaceful neighbourhood. Half way up we came to a cluster of three or four houses, belonging apparently to mountaineers, and after speaking to the chief we went on, at first through open grounds, which had been burned over, and completed the ascent. The summit

appeared to be about two thousand feet in elevation; but, owing to the rainy weather, we were unable to get a distant view in any direction.

We descended by a more direct route; but, before reaching the bay, night came on, and we began to feel some anxiety about our situation. Tui Mora, returning with his party from the watering place, relieved us, and we all took the path leading to a village that occupied a strong military position, being surrounded by a morass and deep water-channels. These were crossed on a pole placed horizontally nearly a foot beneath the surface of the water; and, to a White man, were passable only in one mode, astride the neck of a Feejeean. A woman had been gathering shell-fish among the mangroves, and, on our arrival at the village, the product of her industry was brought to us, together with yams. We passed the night in a small house, with the chief and one or two of his men; and, in the morning, we returned to the watering-place.

It has been asserted that a European, "knowing the language, could travel throughout the Feejee Islands, provided that he carried nothing to tempt the cupidity of the natives; that he would be everywhere hospitably entertained, and would fare as well as the people themselves." A European would doubtless have many advantages over a native in such an undertaking, but I did not hear that any one had made the trial. I was informed, however, that the journey had been "once made by land, from Mbua Bay to Naloa."

On the 20th Mr. Waldron, Mr. Brackenridge, and myself, accompanied by a European interpreter, set out on a visit to the sandalwood district. We supplied ourselves with provisions, being forewarned of the necessity of it by Tui Mbua, who further stated that "it was more than ten years since a White man had been at his village, and that we should be objects of some curiosity." We were conveyed in his canoe, for he still had command of the water, and was thus enabled to keep up a communication with the disjointed portions of his former dominions.

After proceeding among the mangroves, more than a mile up the northern stream, we landed at a place where Tui Mbua's "former town was situated;" but, being hemmed

in by the defection of his own people, he had been forced to remove to the summit of a high rocky knoll, about two miles inland.

After reaching the existing village, and resting awhile, we proposed making an excursion into the country beyond, and Tui Mbua appointed two natives to accompany us. We had scarcely proceeded a hundred yards before our guides pointed to another rock-village, less than a mile distant, and it appeared that there were enemies, even in this direction. Turning to the right, we were led through one or two small plantations, and over some diversified ground, where we added to our botanical collections. Towards evening we re-ascended to the village by a different route.

We were afterwards entertained with a dance, and passed the night at the mbure house. Our previous acquaintance with Tui Mbua had created an interest in his personal character and his misfortunes; and we could not avoid a feeling of sympathy, on taking leave of his dreary abode upon the top of a rock, and of his people reduced for subsistence, as a last resort, to the fruit of the mangrove.

On the 29th, the Vincennes sailed from Mbua Bay, and being favoured by the wind, anchored in the evening at Naloa; and I was enabled to revisit the two villages. The breeze continuing, we arrived, on the 30th, at Muthuata. News here reached us, by one of our survey-boats, of the murder at Melolo of two of our officers, Mr. Underwood and Mr. Henry. For the particulars, I must refer to the Narrative.

On the 4th of August, I went on board the Leonidas, in company with Captain Vanderford. We found here a young chief, whom he had formerly confined on board ship as a prisoner; but the meeting was frolicsome, and without any manifestation of a sense of injury.

The squadron having re-assembled at Muthuata, we sailed on the 9th; and on the following day we reached Mali. On the 11th, we passed through the reefs that had so long hemmed us in, and once more welcomed the bounding waves and the free ocean atmosphere. Our stay, nevertheless, had been instructive; for, however well versed a person may regard himself in the knowledge of mankind, a visit to the Feejee Islands will bring new ideas.

In regard to the *diseases*, I met with the same set as among the neighbouring Polynesians; though, perhaps, in somewhat fewer instances. Ophthalmia, with the loss of at least one of the eyes, was frequent: an instance was observed of the loss of the nose; also, several cases of œdematous or dropsical leg; and a few hump-backs. One lad, at Muthuata, was very much deformed; but being unwilling to show himself, I got only an accidental glimpse of him. I was interested, however, in finding that the Feejeeans do not destroy these unfortunates. In cases of wounds, an extraordinary method of blood-letting is sometimes practised; a slender instrument of bone being passed into the urethra, and thence outwards through the perineum.

The half-breeds between the Polynesians and Feejeeans were precisely intermediate in their personal appearance; only in some instances the complexion was not strikingly lighter than in the Feejeeans. The half-breeds between the Whites and Feejeeans differed from mulattoes, not only in the expression of countenance, but in the hair; which, so far as observed, was hardly distinguishable from that of Europeans. I thought, at first, that they had not a thriving appearance, but this had not been remarked by residents. They, like the Feejee children, are very generally subject to the "dthoke;" a peculiar eruptive disease, which for a time disfigures them exceedingly; but after getting through, they were said to be healthy enough. The same affection, to all appearance, has been mentioned in the accounts of the more western groups; but, so far as at present known, it does not extend beyond the islands inhabited by the Papuan race.

The alleged non-susceptibility of the syphilitic virus must rest on the authority of residents. These likewise asserted, that the women live apart during child-bearing until the period of weaning; a fact having an important bearing on the existence of polygamy. On the other hand, it was said, that in war-time the men will sometimes separate from their wives for years together.

The son of the Muthuata chief was found to be nearsighted, —a novelty to us, among the natives of the South Sea islands; though examples of the opposite fault of vision had been remarked in elderly Polynesians. He was greatly surprised at the improvement produced by spectacles; which were now

first made known to the Feejeeans. The Muthuata queen was disposed to corpulency,—a rare circumstance among the Feejeeans. I did not meet with an instance of a defective tooth.

At Rewa, I saw a dwarf, who had been carried to the United States; but the disparity in stature was not very remarkable; and an ordinary Feejeean would probably have excited more curiosity. I have also heard of a lad who was brought to the United States; but he was soon sent away; and I did not ascertain his subsequent history.

Several Albinoes were enumerated by residents; and I am inclined to think that they occur more frequently in the Papuan race than in any other. I saw one of them,—a man, whose complexion was even fairer than that of Europeans when equally exposed to the sun, but was not free from brownish specks. The iris was blue, without any perceptible tinge of red; and he had his brows always knit, as if affected by the light. The hair was not white, but flaxen; and on my second visit, he had changed it to coal-black, according to the fashion of the country, and made a very odd appearance. An excellent portrait of him was taken by Mr. Agate.

In other parts of the globe instances of cannibalism have occurred, sometimes from extreme necessity, or as a deed of savage ferocity; and we read of tribes who practise it as a ceremony, religious rite, or even as a manifestation of affection. At the Feejee Islands the custom rests on different grounds. It is here interwoven in the elements of society; it forms in no slight degree a pursuit; and it is even regarded in the light of a refinement. Instances are of daily occurrence; and the preparation of human flesh calls into requisition a variety of culinary processes, and is almost a distinct art. There are, however, degrees in the practice, in different parts of the group; and some revolting details were given, which it seems hardly worth while to repeat.

In common with arts and attainments, the traces of cannibalism existing among the *Polynesians* have appeared to me referable to a Feejeean source. And it is an interesting circumstance, that this practice should not have acquired general and permanent foothold among a people so easily influenced by example. In passing through the Polynesian

Groups, I made special inquiries on the subject; and this seems a suitable place for recording the result.

At the Samoan Islands, according to the missionaries, "the natives had never been cannibals, in the proper acceptation of the term; but human flesh had been sometimes tasted in the wars, as an act of vengeance."

At New Zealand, the existence of cannibalism was denied by those who were most intimately acquainted with the natives; and notwithstanding some authentic instances on record, I was satisfied that there had been much exaggeration on the subject.

At Tongataboo, the missionaries stated, that "the natives strenuously deny having ever committed acts of cannibalism; and that they are offended at the charge." But one of the missionaries thought that, nevertheless, there had been a few instances. The amount of Tonga cannibalism may indeed be gathered from the work of Mariner.

Cannibalism was certainly once practised at the Hawaiian Islands; not by the community generally, but rather, it would seem, by a class of outlaws. According to the Hawaiian lady so often quoted, "persons travelling singly, or even two in company, were sometimes waylaid, and their flesh was cooked in stone vessels having somewhat the form of jars." The latter circumstance, differing so essentially from the usual Polynesian cookery, together with the "necklaces of human teeth worn by the Hawaiians in former times," have appeared to me to point distinctly towards a Feejee origin.

From the concurrent testimony of visitors it would appear that cannibalism is more frequent at the Marquesas than at the other Polynesian groups; and likewise that it is carried on there more in accordance with the customs of the Feejeeans.

OTHER PAPUANS.

Of the two natives brought to the United States by Captain Morrell, about the year 1833, one probably belonged to the Papuan race. I have a clear recollection of his large stature, stout limbs, and crisp hair; and I think I can recall in some measure his features, which were rather good-humoured than impressive. It would seem from

the account given by Jacobs,* that he came from the vicinity of the ADMIRALTY GROUP, but from a separate island from his companion.

Mr. Hadley, of Wenham, on visiting BOUGAINVILLE ISLAND, found the natives to be "much the same sort of people as the Feejeeans, except that they were in a ruder condition. They were fully as large, and their complexion he thought was blacker. The men were entirely naked. They brought off sugar-cane in their canoes, which were much more roughly made than those of the Feejee Islands. In the course of much experience, the Feejeeans were the only 'savage people' he had ever met with who would give reasons, and with whom it was possible to hold a connected conversation."

Captain Jackson, of Salem, spoke of "the inhabitants of the east coast of NEW GUINEA as being a very large set of men, soot-headed, and resembling the natives of Bougainville Island." Indeed, the "huge black men" of Dampier, and those described by Sonnerat as having a "hard and rough skin," can, I think, be only referred to the Papuan race.

To the same race I would refer the natives of NEW CALEDONIA, judging from the figures of them by Labillardiere. That of the "woman" in particular, even to the attitude and dress, is eminently characteristic of the personal appearance of the Feejee women. The Vincennes visited Hunter Island, which is near the south-east end of New Caledonia, but is too unimportant to be inhabited.

The Papuan race may thus be traced with tolerable certainty from the Feejee Islands to the shores of New Guinea. The population appears to be everywhere dense, and to be divided, as at the Feejee Islands, into two classes that are politically independent, the fishermen or people of the coast, and the mountaineers. The practice of cannibalism seems also co-extensive with the race, while the surrounding islanders, though often in a less advanced state of society, as generally hold it in horror.

The Papuan race appears also to extend through a portion of the East India islands; but it probably does not occur to

* Adventures in the Pacific Ocean.—New York, 1844.

the westward of FLORIS, or Ende. Dr. Dickenson "had seen some natives of Floris, who came in a proa to Macassar;" and he did not at first recognise in Veindovi the least similitude; but was less positive on being informed that Veindovi's mode of wearing the hair erect, was in part artificial.

We read of a class of unmanageable "blacks who have been sometimes taken with other slaves to the Philippines;" and all the attendant circumstances seem to indicate the Papuan race.

Mr. Jenkins, of the English mission in the Tamul country, "was once reading to some Hindoos, Dillon's account of the Feejee Islands; when his auditors became greatly interested, perceiving that the same description of people had been mentioned in their sacred books. They were indeed spoken of in these books rather as a species of demon, but they were clearly designated, and their geographical position, 'far in the Southeast,' was likewise indicated." All which may be compared with the intercourse known to have existed from ancient times with the Molucca Islands.

Notwithstanding the various remarkable coincidences in customs, as the use of the neck pillow, circumcision, similar modes of dressing the hair, even to the staining of it of a flaxen hue, the Papuan race does not appear to exist in Eastern Africa. At Zanzibar I met with two or three individuals of mixed race who somewhat resembled Feejeeans; but the softness of the skin at once marked the absence of true affinity.

CHAPTER VII.

THE NEGRILLO RACE.

THE Negrillo race has much the same complexion as the Papuan; but differs in the diminutive stature, the general absence of a beard, the projecting of the lower part of the face or the inclined profile, and the exaggerated Negro features.

The hair also is more woolly than in the Papuan, though far from equalling in knotty closeness that of the Negro. On a direct comparison with the Negro, I have observed that the complexion appears to be rather red than black.

For characteristic figures of Negrilloes I would refer to that given in Crawfurd's Indian Archipelago; to the portrait by Choris, of the girl of Luzon, which may be compared with another, taken likewise at Manila, by Mr. Agate, and to that of the Aramanga lad, by Mr. Drayton.

NEW HEBRIDES.

One day, at Tongataboo, I observed, as I supposed, a Negro lad sporting in the midst of a group of native children. I should, perhaps, have thought nothing of the circumstance, had I not been told by a resident that he was a native of the island of ARAMANGA. It appeared that "he had been brought in a trading vessel about ten years previous." My informant, who was on board the vessel, stated, "that the object of the voyage was to cut sandalwood, but so much opposition was experienced from the natives, that after obtaining a little the enterprise was abandoned. Beards were rare at Aramanga."

On invitation, the lad subsequently came on board the Vincennes, bringing a little present of fruit; and I was thus enabled to examine his features more particularly. The forehead was remarkably retreating, with a horizontal

sulcus or furrow, and the lower part of the face was very prominent; the lips were thick, the nose hardly as broad as in the negro, and the eyes, though small and deeply sunk, were very lively; the cheeks were thin, and the limbs slender, with the calf of the leg high. Notwithstanding his orang features, the countenance was very pleasing, and he seemed unusually active and intelligent. Having been brought away when a child, he had forgotten every word of his native language. It was reported of him, that at night, instead of seeking, like his companions, the protection of houses, he resorted "to the sea-shore, and buried himself in the sand."

Captain Vanderford once visited Aramanga; and, in circumnavigating it, "attempted at various points to open communication with the natives; but he could get nothing from them, except a spear or a stone. They were the most singular-looking people he ever beheld, and appeared to him rather like monkeys than men." The last expression will be found to be nearly identical with the terms used by Forster, in speaking of another island of the same group.

While the Squadron was at Sydney, news arrived that the Rev. John Williams had been killed by the natives of Aramanga. The following particulars were communicated by Mr. Cunningham, who was present on the occasion. "The party first landed on *Tanna*, an island in a high state of cultivation, where they were received in a friendly manner. The inhabitants spoke a language much like that of the Hervey Islanders, so that the missionaries were enabled to make themselves understood."

"After leaving some of the Samoan assistants, the missionaries next proceeded to Aramanga, which, although at so short a distance, proved to be uncultivated and barren. It was also inhabited by a different race of men, who were black, and had woolly hair, and whose language they were totally unable to comprehend. The natives seemed suspicious from the beginning, but made no hostile demonstrations; and the missionaries"—who, it should be observed, had been accustomed to the habits of the Polynesians—"landed, and amused themselves with picking up shells and pebbles along the beach. They had strolled some distance from the boat before the attack commenced; which, although

apparently not preconcerted, soon became general, with arrows, spears, and stones."

Forster expresses himself as having been much surprised at the behaviour of the people of MALIKOLO (a third island of the same group); and it will appear the more extraordinary to one familiar with the usual deportment of the islanders of the Pacific. "They came on board, and climbed up the rigging to the mast-head; and at dark they procured torches, and continued about the ship till midnight. They were the most *intelligent* people we had seen in the South Seas. They coveted everything, but did not repine at a refusal. They had curiosity enough to learn our language, which they pronounced with great accuracy, and set about teaching us their own." True, however, to the character of the race elsewhere, they expressed unwillingness for the continuance of the acquaintance. From the remainder of Forster's account, it may be inferred that the island is thickly peopled, like others in the vicinity, and that the inhabitants cultivate the soil, dwell in cabins, have the same useful plants and animals as the Polynesians, and construct canoes, though of indifferent workmanship.

NITENDI GROUP.

Of all writers, D'Urville appears to have enjoyed the best opportunities for becoming acquainted with the Negrilloes of the Pacific, and principally at VANIKORO, the scene of the shipwreck of La Perouse. I must refer to his account, published in the Voyage of the Astrolabe, citing only one remarkable peculiarity, that of "wars being carried on by the people of different districts, while the chiefs remain friends."

SOLOMON ISLANDS.

This group, which is sometimes called New Georgia, was visited by D'Urville, in his recent voyage; and he ascertained that the principal island is inhabited by the race under consideration. The bows and arrows from New Georgia, presented to our Expedition, are scarcely distinguishable from those of the Feejee Islands.

NEW GUINEA.

The Malays at Singapore have a few Negrillo slaves, who, however, might readily recover their freedom, were they sufficiently well informed to take advantage of the laws. I met with three of them; and, notwithstanding an air of contentment, they seemed to be rather passing with the crowd than belonging to it. Their stature was dwarfish, even amidst the surrounding population. Their complexion was not darker than in the Telingans of Eastern Hindostan. One individual had the mouth unusually wide; and in all three the features were coarser than in the Negro race, the forehead being more retreating, and the lower part of the face yet more projecting.

According to the missionaries, the Malays uniformly declare, "that this class of people come from Papua (or New Guinea), and are brought by the Bugis." Dr. Dickenson had visited Tidore, where "he had witnessed the common importation of this description of slaves, together with birds of paradise, direct from New Guinea." These statements, being somewhat at variance with other accounts of the population of New Guinea, seem to call for further remark.

We learn from Forrest that commercial intercourse takes place across the western peninsula of New Guinea by means of the deep gulf or inlet; and further, that slaves are brought to the harbour of Dory from the eastward. The accounts obtained by Morrell and Jacobs of the population of the interior of New Guinea, and the discovery by them of a large river emptying into Geelvink Bay, may probably furnish the required explanation.

It appears further, that proas occasionally visit the harbour of Dory, situated near the entrance of Geelvink Bay; and this seems to form the proper eastern limit of the navigation of the East Indians.

LUZON.

Negrilloes inhabit the mountains in various parts of Luzon, and even, it was said, those at the entrance of the bay of Manila. So far as I could learn, they are an inoffensive people. Nevertheless, some asserted that the Malay

"buffalo-hunters do not scruple to shoot them like wild game, when they chance to meet one in the woods." Negrillo children are sometimes caught and held in slavery; but when "they attain the age at which the Spanish laws set them free, they, with but a single known exception, return to the woods."

After some inquiry, a Negrillo slave-girl was found at Manila, who in physical race was identified by Mr. Drayton with the Aramanga lad. I was absent at the time in the interior; and I did not meet with any of the Negrilloes of the Philippines.

At the mission of Mayjayjay, Father Aranda communicated the unexpected intelligence, that "the Negrilloes of Luzon do not possess a peculiar language, but use the Tagala; that they have houses and villages; and that individuals will sometimes come into the settlements and labour for a few days, until they have earned some trifling sum, when they will again retire to the mountains."

SOOLOO.

I saw a Negrillo at the capital of Sooloo, a young man, who was probably a native of the island, and who bore the marks of mixed descent.

According to Hunt, the aboriginal Negrilloes were on a former occasion "chiefly instrumental in driving out the Spaniards. They hold the mandates of the Sultan in high respect, and continue on friendly terms, while the other Interior people are at open war with him; and," what I have never heard of any other branch of the race, "they are converts to Islamism."

OTHER NEGRILLOES.

The Andaman islanders, from the concurrent accounts, may be referred to the Negrillo race, which seems also to be present in the Malayan Peninsula, if not in Sumatra. On the other hand, Dr. Dickenson heard nothing of Negrilloes in Borneo: they appear to be equally absent from Celebes and Mindanao, where the Interior is occupied by Harafora tribes, and from Java, where the population is comparatively

advanced. Indeed, the geographical distribution sufficiently indicates that the Negrillo race once occupied more space than it does at this time, and that in many instances it has preceded the dissemination of other races.

CHAPTER VIII.

THE TELINGAN OR INDIAN RACE.

THE Eastern Hindoos, those at least who make visits to the East India islands, present great uniformity in their personal appearance; and, in this respect, they agree with the tribes and nations situated to the eastward of Hindostan.

The complexion is much the same as in the two preceding races, and is so decidedly darker than in the Malayan, that by common consent it is called black; although, on comparison, the hue differs widely from that of the unmixed Negro. The true colour may be formed by mixing red and black; and in reference to the use of the term of "purple-brown" and that of "olive," it should be observed that neither blue nor green enter into any variety of human complexion.

The features approximate very closely to those of the White race; but, in general, the mouth appeared to be wider, the nose rather less prominent, and the lips sensibly thicker. The profile was observed to be less vertical than in the surrounding Malays; the lower part of the face projecting with a regular arch, as in the Mongolian; and there was a further correspondence with the latter race, in the frequent instances of the arched nose.

The skin was ascertained to be very soft. The beard occurred more frequently, and was decidedly more copious than in the Malayan race. The hair was straight and fine, and I have never seen it of any other colour than black. I have not met with Albinoes in the Telingan race.

I am unable at present to refer to a characteristic portrait of the Telingan race; most of the published figures of Hindoos having been taken either from the White race or from mixtures.

EASTERN HINDOSTAN.

"Lascars" usually enter into the composition of the crews of Anglo-Indian vessels, and they thus reach *Manila*, where I once met with four or five of them in the streets. I did not, however, hear of any who were permanently settled at the Philippine Islands.

At *Sooloo*, I saw two Lascars; who had been brought there equally though indirectly through the agency of Europeans, and were held in a state of captivity. As they stood in the midst of the native population, the "hatchet-face," the more prominent nose, and darker complexion, rendered them quite conspicuous.

At *Singapore*, on the other hand, the Hindoos had principally arrived by their own means of emigration, in the manner described by Crawfurd and others. Next to the Chinese, they formed the most considerable part of the population; and, like them, they were mere visitors, bringing no women with them, and purposing to return after a series of years. A large proportion were from Peninsular India, and were called "Telinga people," or, more commonly, "Klings."

Coming, as we did, from among the tribes of the further East, the transition to the Hindoos and Chinese was very striking. Not on account of the costume, which continued, in many instances, as scanty as in the Pacific; while the dances, shows, and processions might have passed for mummeries; but these had accompanied all the substantial advantages of civilisation, laws, civil order, security of person and property, from a period anterior to the rise of Greece and Rome. We were looking upon people who have remained essentially the same throughout the revolutions which have befallen other nations, and upon ceremonies, that, for aught we can see to the contrary, may yet be destined to survive the institutions of Europe and the West.

While we were at Singapore, a play was performed by the Hindoo workmen residing on Mr. Balestier's plantation. In the music I remarked a similarity to the Spanish airs heard on the western coast of America, but I should hardly have ventured an opinion on this point, had not Mr. Rich (who passed his earlier years in Spain) recognised the identity. The connexion may probably be established

through the Muslims, but I must leave it to others to decide upon the relative claims of priority.

A "clown" was in attendance, whose sayings and pranks appeared to be much relished. This custom has even reached the Feejee Islands, but it does not occur upon the Chinese stage. The regular acting consisted principally of singing and dancing conducted in the open air, and, to one unacquainted with the language, was rather monotonous. But the style of the gilded head-dresses seemed to resuscitate the Egyptians of antiquity; and even the "vulture-cap" was present upon the head of one of the actors.

A Bramin, on account of some difficulty, was residing at Singapore; and as the hereditary growth of the nobility of Europe was comparatively ephemeral, I examined with some interest his personal appearance. The complexion was the same as in the low-caste Hindoos, and the countenance might not have attracted notice in the street; but the mouth was small, the lips thin, and the facial angle approached unusually near to ninety degrees. The latter circumstance was not perceived in another Bramin belonging to the Telingan race, who was subsequently seen at Bombay, though in both the lobe of the ear was broader than usual; and, contrary to a custom which occurs among various uncivilised tribes, as well as in the Cutch Banians, and in representations of Hindoo deities, it was not perforated.

The Bramin first mentioned was very affable, spoke English correctly and fluently, and was ready to answer any questions in relation to his religion, or to go into an argument in its defence. He stated that "the Braminical religion can only be inherited; that 'caste,' when once lost, cannot be regained, either by the individual or by his descendants; that Bramins would lose caste by partaking of animal food, or by the commission of any immorality; and that a Bramin could leave his own and enter either of the inferior castes." The system of thus visiting the sins of the parent upon the children seems intended to offer the utmost inducements towards leading a pure life, whatever may be said of the selfishness of the principle. The reported national failings, however, tempt us to suppose, that lying and pecuniary offences can hardly be mentioned in the Braminical code.

The Bramin further asserted that the burning of widows "continues to be practised in Hindostan, at least among the upper classes, though, in consequence of the interference of the government, it is now done privately." Hook-swinging, according to his explanation, is a manifestation of faith, the sufferer "believing that if he has courage to go through the ordeal, the Deity will protect him from harm." This penance, and that of running through the bed of coals, had been sometimes practised by the Hindoo emigrants at Singapore.

The temple was found to be a substantial stone building, much in the style of the two mosques; but the Bramin would not admit the resemblance, alleging that there was a difference in the shape of the dome. In the details of these three buildings, I thought I could discover traces of the ancient Egyptian style of architecture, something corresponding to the incorporation of the Greek and Roman in our modern dwelling-houses; but I found no confirmation subsequently in Western Hindostan. I was not admitted into the main building, and it was the same with the more select temples of Western Hindostan; the idea of a sanctuary being common to the Braminical, Parsee, and Muslim, as well as to various ancient forms of worship.

The Hindoos at Singapore, according to the Bramin, were "nearly all Sudras, or fourth-cast men; and there were no Parias in the place." He denied that there were "Bramins on Bali," and spoke of the system prevailing on that island as "the Hindoo religion;" which term he likewise applied to the Buddhism of China and the Indo-Chinese countries.

The rules of caste would restrict the Hindoos from intermarrying with the Malays, even if there were no objections on the other side. The descriptions, however, of the *Amboynese*, seem to correspond with the Telingan race. Stavorinus states, "that the Chinese intermarry with the Bouginese and women of Macassar, but not with the Amboynese;" a circumstance which seems to indicate the presence of a third physical race.

We have abundant evidence that a commercial intercourse has existed with this quarter from a very early period. The Papuan race, as already mentioned, is noticed in the Hindoo sacred books. In the fourth century, the Chinese traveller

Fa-hian, sailed from Southern Hindostan to the East Indies in a vessel manned by Braminical Hindoos. The cloves and nutmegs of Amboyna and the Moluccas appear to have been known in the Mediterranean as early, perhaps, as the time of Fa-hian. According, however, to the following deductions, we have a much more ancient notice of the countries beyond Hindostan.

Cinnamon is mentioned by Herodotus, and likewise in the books of Moses; and the article could not have been obtained from any place nearer than Ceylon. During my recent visit to Bombay, I learned that the word "cinnamon" is only in part Sanscrit; the Mahratta or modern Sanscrit name for the article being "dhal-Kinna," which means "China-wood." That "cinna" really means China, is shown in "cinnabar," another article of commerce, well known to the ancient Greeks and Romans; but the place referred to is probably the Indo-Chinese Peninsula, the only country, I believe, besides Ceylon, where cinnamon is cultivated.

I observe that "maun," in the Tamul language of Southern India, is in some respects the equivalent of the Sanscrit "dhal;" and this point, it will be seen, involves the subject of the antiquity of the Tamul language. I would add, that the Tamul literature was regarded by the missionaries as being "equally rich with the Sanscrit, although hitherto very imperfectly explored."

The larger portion of the INDIAN MUSLIMS at Singapore, and particularly those of the lower orders, did not appear to differ physically from the Telinga people. Both the Muslim and the Chinese holidays took place during our short visit; thus affording a favourable opportunity for inspecting these two classes of the population.

On the evening of our arrival, after witnessing various Chinese exhibitions, I met with one of a totally different character, comparatively rude, and which I perceived at once belonged to Hindostan. It was a procession, accompanying two boys who were dancing; their close red female attire brushing the ground, while the bells on their ankles chimed with the music. Their faces were whitened, and one wore a tiara cap, which was higher than those I afterwards saw in Egypt. They were preceded by swordsmen bearing shields,

engaged in mock combat. The same procession was renewed on subsequent evenings; and the people were found to resort to some booths "established temporarily on account of the Muslim holidays." One of the booths was a place of worship, and contained an illuminated screen; and the "joss sticks," or tapers of the Chinese temples, were also in use. This was Islamism, apparently in its most corrupted form.

The annual celebration, in memory of the death of the two sons of Mohammed, took place on the 21st of February, 1842. Among three or four thousand persons who took part in the ceremony, many bore the marks, more or less obvious, of partial White descent; and such individuals were often distinguished by being more robust; but unmixed Whites were rare. I saw but one green turban—the badge of the lineal descendants of the founder of the religion. Neatness and decorum prevailed throughout. This was not the case in the disorderly proceedings I witnessed at the same celebration, held on the 19th of January, 1845, at Bombay; in which I recognised scarcely any points of resemblance besides the bearing of paper shrines.

In connexion with the Telingan race, it is of importance to note, that Muslim political influence in India "never reached the eastern coast." The practice of seclusion, I believe, prevails on that coast; and it may in part account for the circumstance, that I saw but one woman of Hindostan at Singapore.

Individuals who called themselves "Arabs" were numerous at Singapore, but their claim was not in all instances free from suspicion, on account of an obvious motive—Arab influence being paramount with the Malays, "who plume themselves according to the proportion of the blood they may have in their veins;" while, on the other hand, they look down upon the Indian Muslims. These self-styled Arabs were mostly persons of mixed descent, but I was not prepared at the time to distinguish the Ethiopian from the Telingan admixture; and, indeed, the task may not prove of easy accomplishment. One of these persons had his beard striped longitudinally gray and black (it is presumed by artificial means); and the same was observed in an Abyssinian Arab from Mukdusha, who was likewise residing at Singapore.

Through the operations of modern commerce, people of Hindostan have been sometimes carried far to the eastward of their limits when left to their own resources. Besides those seen at Sooloo and Manila, I found several living in Sydney. A "native of Calcutta" had taken up his residence with the white men at Ovolau, in the Feejee Islands. Others were seen at Oahu, where, too, I heard of "persons who called themselves Arabs," and saw, if my memory serves me, a Muslim tomb.

WESTERN HINDOSTAN.

During my recent visit to Bombay and the Dekkan, I was much surprised at the rare occurrence of the Telingan race, at least, in a condition at all approaching purity. I sometimes thought I could distinguish traces among the low-caste Mahrattas; and of two "Telinga Bramins, who came from the vicinity of Hyderabad," one (the individual above noticed) was devoid of any marks of intermixture with the White race. This man stated that "his caste intermarried with the Bramins of the Dekkan, but not with those of Bengal or Guzerat." All the Mahratta Bramins I met with, appeared to be of unmixed White descent; but one of them said that "the Telinga Bramins were highly respected, while the Bengal, Guzerat, Cutch, and Cashmere Bramins were regarded as impure."

From repeated inquiries it appeared that the rules of "caste" are independent of colour or physical difference between the two races; and further, that, unlike what takes place in other countries and in respect to other races, no such distinction is recognised by the people themselves. I am not, on this account, prepared to abandon the claims of the Telingan to be considered a distinct race; but I confess the population of this part of India seemed so blended that I was unable to define the precise limits.

To the westward of Hindostan, at Muscat, I saw two individuals whose personal appearance agreed entirely with that of the Telingan race. They were from Bahrein, in the Persian Gulf.

MADAGASCAR.

On the passage from Singapore to the United States, the Vincennes touched at the island of *St. Helena;* where I found myself, as I supposed, again among Lascars, in this instance, more or less mixed with Negroes. On inquiry, I was greatly surprised to learn that, notwithstanding the admitted resemblance, "this class of the population had been all brought many years since from Madagascar."

On the other hand, I was unable to detect the slightest appearances of Telingan admixture among the numbers of Madagascar people seen subsequently at *Zanzibar*. It is true, these had been derived, perhaps exclusively, from the Sakalava country, on the western coast. In regard, however, to the alleged origin of the St. Helena people, Ellis's* description of the "Betanimena and Betsimisaraka" seems to correspond; and in another place he expressly mentions the occurrence of "straight-haired blacks" among the population of Madagascar.

Drury appears to have been the only writer who has seen some of the "Vazimbi" of Madagascar; and he speaks of them as being a distinct race from the other inhabitants of the island; but his description does not well correspond with the Telingan race.

CHAPTER IX.

THE NEGRO RACE.

At the present day, the personal appearance of the Negro is generally familiar; and the thick lips, flattened nose, retreating forehead, close woolly hair, and dark complexion, have become proverbial. The Negro appears to exceed all other races in depth of hue, and in the close woolly texture of the hair is rivalled only by the Hottentot. The absence of rigidity and of a divided apex in the cartilage of the nose

* History of Madagascar, vol. i. p. 130, &c.

is a character common equally to the Malayan, and, probably, to some of the other races.

In the case of two Albino children, the Negro aspect had so entirely disappeared, that they might have passed for the children of Europeans, but for the remarkable appearance of the hair, which I could only compare to a white fleece.

The Negro race seems to occupy about one-half of Africa, and, excluding the northern and southern extremes with the table-land of Abyssinia, it holds all the more temperate and fertile parts of the continent. These limits, to all appearance, would not have been exceeded to this day, aside from foreign interference; but, as one consequence of the events of the last two centuries, the Negro race seems destined to fill hereafter an important place in general history.

COLONIAL NEGROES.

a. *Europeanised Negroes.*

Negroes are now to be found in most parts of the globe where Europeans have established themselves; and although separate notices seem hardly to be required, I have selected the following.

During a week spent in different parts of the island of *Madeira*, I met with no Negroes, except at the port of Funchal; and the few individuals seen at this place may have been connected with the foreign shipping.

On the other hand, the population of the *Cape Verd* Islands, judging from our hasty visit, appeared to be principally composed of Negroes; and they were living in a very rude state for the subjects of a civilised government. They, however, exhibited a certain air of independence, not seen in the same race in the United States.

Brazil had more of the aspect of a European colony, although Negroes formed the most numerous class of the population of *Rio Janeiro* and its environs; and instances of even mixed descent were comparatively rare. Most of these Negroes were slaves; but very many were employed as soldiers in the military police. Others held places of honour and trust under the government; and one man was spoken of, as being distinguished for his abilities as an advocate.

Several of the women too moved, with their Portuguese husbands, in the first circles of society.

I was careful to look among the imported Negroes for traces of some different race; but I was unable to detect any; neither have I met with more success in other parts of America. A second race may have been sometimes included in the importations from Madagascar; but otherwise, I think, instances have been extremely rare; prior at least to the recent introduction by the English of people of Hindostan.

Some Negroes were seen among the "guachos" or mounted herdsmen of the *Rio Negro,* in North Patagonia. "They had come by land from Buenos Ayres," and they hardly appeared to be on the footing of slaves.

There are, perhaps, fewer Negroes in *Chili* than in any other Europeanised portion of America. I do not remember seeing more than ten or twelve, during the eighteen days I spent in Chili, chiefly at the cities of Valparaiso and Santiago.

In *Peru,* Negroes are common, but they are chiefly confined to the vicinity of the coast, where many of them are held as slaves, and where the practice of merely "requiring them to furnish their masters with stated sums of money, had contributed essentially to the frequency of robberies." Some of the free Negroes seen at Lima had reached the middle class of society, but I did not hear of any one who had acquired eminence, or who held an important office. In the churches, however, some deceased Negro priests had been canonised. Among the military, Negroes were sometimes observed in the ranks; together with a much larger proportion of persons of mixed origin, "zamboes and mulattoes." In the region of the Andes I saw but one Negro, who held some subordinate office in a small village.

In New South Wales I met with two or three Negroes in the streets of *Sydney;* but I saw none on my visit to the district of the Hunter River.

Free Negroes were occasionally seen on such of the *Polynesian* islands as have resident Whites; having been derived, as in various other parts of the world, chiefly from the American shipping. I also met with a few half-breeds, between the Negro and Polynesian. Up to the time of our

visit, no Negroes had taken up their abode at the *Feejee* group.

Among the *East India* islands, Negroes seem to be very nearly wanting; and, indeed, we read of their being carried to the Indo-Chinese countries as curiosities. At Singapore, situated in respect to the route of travel at the entrance of the whole region, I met with three Negroes; and one of them had been introduced partly through the agency of Europeans. This man was large and muscular in comparison with the surrounding population, and was called a "Koffri," a class of persons said to have been originally imported from Mozambique into Southern India, and who bear a high character for fidelity. It seemed singular that their identity with the Negro was not recognised even by American residents.

At *Cape Town* the lower class of the population appeared to be composed chiefly of Negroes; and, according to report, "they had been derived principally from Mozambique and Madagascar." They appeared to be more cleanly, and to live on a better footing with their White neighbours, than their brethren in our northern cities.

At *St. Helena*, the Negro portion of the population, as already stated, had been "derived exclusively from Madagascar." A remarkable deviation from direct commercial intercourse may be here noted; the circumstance "that slaves from Africa are now carried across the island of Madagascar, to be sold to Europeans from its eastern coast."

One or more Negroes from the United States had taken up their residence at *Zanzibar*, and others again at *Bombay;* conforming to the customs of their several adopted countries, and having no wish to return to the land of their nativity.

In passing through the *Mediterranean* countries, I observed two or three Negroes at Malta, and as many at Marseilles; but I met with none at the Sicilian and Italian ports, nor in the interior of France.

The general excellence of the Negro ear for music is a subject of common remark in the *United States*, and is manifested in many of the ordinary occurrences of life. Indeed it has been stated, apparently on sufficient grounds, that much of our popular music can be traced to a Negro origin. Observations on my recent journey have led me to suspect

that some of this music may have a yet more distant source, and one perhaps more ancient than is commonly supposed.

b. *Arabised Negroes.*

With the exception of the two individuals at Singapore, I first saw Muslim Negroes in *Egypt*. In this country, the Negroes seem to be in a good measure confined to the two cities of Cairo and Alexandria; and, excepting a large body of soldiers, are principally employed as house-servants. It sometimes happens that one of them "inherits his master's property together with the charge of his family;" in accordance apparently, with ancient usage, with Abraham's selection of an heir from among the members of his household.

Negroes are occasionally purchased and educated both by Copts and by resident Europeans; but the influences of locality prevailing, they do not form a distinct class from the Muslim Negroes. I do not remember to have seen Negro servants among the Jews, either at Cairo or anywhere in the East.

I did not in Egypt observe Negroes engaged in the labours of agriculture. Neither, indeed, are they so represented on the ancient monuments; where Whites, distinguished by their profile from the proper Egyptians, are often serving in the capacity of slaves. Negroes are figured principally in connexion with and as illustrating the military campaigns of the eighteenth dynasty; and there is evidence, moreover, that one of the Pharaohs of this dynasty (Thouthmosis IV.) selected a negress for his queen. I do not remember seeing Negroes represented on the anterior monuments, nor indeed on those of a much later date; though I did not, as carefully as the case requires, search the records of the Ptolemaic conquests.

I am not aware of any fact contravening the assumption that Negro slavery may have been of modern origin; and the race even seems to have been very little known to the ancient Greeks and Romans. I have seen the Negro skull which was exhumed in the island of Malta, among the ruins of Hadjerkim; but, in the absence of inscriptions, I am not aware that any date has been assigned to these anomalous constructions, other than referring them indefinitely to idolatrous times. In regard, however, to the general subject

of the ancient Oracles, I will mention, on the authority of Dr. Schembri, that "the name of 'dodon' is to this day applied by the Maltese to a particular variety of black pigeon."

At *Suez* I remarked one Negro among a party of "Arabs of the Hedjáz," and this man wore the same costume, and appeared to be living on a footing of equality with his companions.

At *Mocha* Negroes were numerous, and they had been derived from two distinct portions of Africa. Some had come, like those of Egypt, from the White River of the Nile, and were called "Nuba." These were "highly esteemed as soldiers, and, as such, were kept in numbers by some of the more powerful chiefs of Southern Arabia." The majority, however, of the Negroes I saw at Mocha had been brought from Zanzibar.

At Mocha I also met with a class of persons more or less mixed, who were called "HADEM," a term which appeared to be equivalent to that of "low people," and which was used in other instances to be mentioned hereafter. They were characterised as "a sort of Arabian Negro coming from the Interior or the Desert, who, among other usages, practise eating dead animals." Of the individuals pointed out to me, some were not distinguishable from the Arabs of the country; but others presented traces of Negro descent, and one man had the aspect of an unmixed Negro.

At *Muscat* the influx of Negroes appeared to be exclusively from Zanzibar, and, excepting those brought as slaves, they consisted chiefly of SOAHILI. The latter were perhaps only visitors, since they compose the principal part of the crews of the numerous dows trading to the African coast. The Soahili are all Muslims, and I did not hear of any who were held in slavery in this part of Arabia; but at Mocha I met with slaves who called themselves Soahili.

In the streets of *Bombay* I frequently fell in with Soahili, who belonged, as before, to the Arab shipping. But at Singapore I saw none of these people, and their absence was confirmed by the testimony of the Abyssinian Arab.

At *Zanzibar* the Soahili were found to assume the exclusive management of the small dows trading along the coast

as far south as Mozambique and Madagascar, while another, and, in their own estimation a more responsible class of navigators, direct the larger vessels to Arabia and North-western Hindostan.

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The Soahili are a mixed nation, consisting principally of Negroes, but embodying the remains of an infusion of Whites; and many individuals among them would not be distinguished from Arabs. The inhabitants of the fertile islands of Zanzibar and Pemba are chiefly Soahili, together with, in all probability, the mass of the population at Mombas and in the Arab towns in the delta of the Juba. Soahili, however, are scattered along the coast beyond these limits, and adventurers sometimes join the caravans of the interior Negroes, and make visits to the Great Lake, or, in conjunction with Comoro men, form independent trading expeditions for minor distances.

The Soahili language has, in consequence, become the medium of commercial intercourse along the eastern coast of Africa. It contains numerous foreign words, derived principally from the countries around the Persian Gulf; but it is properly a Negro language. At the same time, instances may probably be found of the transmission of words in the opposite direction.

My interpreter, Sadik, a Soahili of mixed race, who was born at Marka, gave me the following account: "The people of Brava, Marka, and Mukdusha, all came originally from Arabia, and established these towns in the Somauli country. The island of Lamo was formerly uninhabited; while the Sela (Soahili) dwelt at Ketao, a town directly opposite, on the main land. The Arabs settling upon the island, 'made them low.' The Soahili do not like this state of things, but they cannot help themselves. The Soahili did not in former times fight the Galla, but the people of Lamo now fight them, when they come to steal."

"The Soahili have feeling, but the Arabs have none, and are a very bad people. Arabs will kill a man to get the money in his pocket, and he had known of their killing their parents when they happened to have property. A blind man had mentioned several instances of theft, accomplished by Arabs taking advantage of his infirmity. The

Negroes are fools; but if they had knowledge, like the Arabs, they would be a better people." Sadik was for a time enraptured with a musical box which was provided with an artificial bird; but on recovering from his reverie, and the price being named, he remarked, "Who would give two hundred dollars for a bird like that, while one that God made can be bought for a farthing?"

The Soahili, besides the usual Muslim calendar, have one of their own. Their new year commenced, in 1844, on the 29th of August, or, more precisely, at 6 P.M. on the evening of the 28th; and I remarked further, that it immediately followed full moon. Sadik stated that the Soahili year "consists of twelve moons and ten days; and that from the weather on these supernumerary days the people prognosticate that of the whole year. The months or moons are numbered, and three only have names, Shaban (understood to indicate the time of planting), Rejib, and Ramadan;" appellations which are well known in the Muslim calendar. Indeed it was reiterated "that the Soahili year is the same with the Arab, and consists in like manner of three hundred and sixty-five days, or of twelve moons and ten days," a statement which seems to refer to some agricultural calendar used in Southern Arabia.

The following additional particulars were obtained from the Sultan of the Soahili, a highly intelligent personage of mixed race, who, agreeably to ancient usage, was retained with other Sultans at the seat of government. "The person, who has charge of the Soahili year, resides on Tombat (an inconsiderable islet detached from the larger island of Zanzibar). He looks at the sun and makes figures on the ground, when, on comparing his work with a book (written in Arabic), he declares which is the first day of the year."

A Parsee, then in Zanzibar, identified the day with the commencement of one of the Parsee years though he spurned the idea of any connexion in the calendars. The 29th of August is well known to be new-year's day with the Abyssinians and Egyptians, except that these nations have not abandoned their reckoning of the lapse of time, as has been done, to a certain extent, by modern Europeans: and on this point the Parsees and Soahili are commonly

supposed to have borrowed in their calculations. According to the above authority "the Parsee year now contains three hundred and sixty-five days, while formerly one-fourth of a day was added."

The Soahili Sultan stated, in regard to his own family, that "his ancestor came from Sheerazy (Shiraz in Persia) about two centuries ago, and finding the country ruled by a woman, married her." He assigned the same date to the arrival of the people of Muscat, and he placed the "coming of the Portuguese about a century earlier."

As to the predecessors of the Portuguese, he was uncertain; but others spoke of the "Debully people, who were straight-haired," and who perhaps belonged to North-western India.

An old fortification forms a conspicuous object at the city of Zanzibar, and, like similar ones along the coast, it has been commonly attributed to the Portuguese. Besides the presence of plastering on the outer walls, a little attention to other details will show that these constructions have no reference to the use of artillery; and they thus reveal one secret of the successes of Europeans in this quarter of the globe. I have seen similar fortresses, having the like round towers, in the interior of Hindostan; and all such may be referred to the early Muslims, or, in a general way, to the time of the Caliphs. Indeed, the Soahili have preserved a tradition, that one of the "Haleefeh sent out, as it were, missionaries to convert Eastern Africa."

Notices of Eastern Africa have been found, of a date anterior to the time of the Caliphs, and particularly, I believe, an account by Arrian, which I have not consulted. With respect to "Agizymba, the most distant country known to Ptolemy," I have been struck with the similarity of the word to "Kissimkazy," "Kissimbany," and other local names which occur in the island of Zanzibar. The "Cazembe," a shadowy personage who figures in some Portuguese accounts of the interior of East Africa, may also have a connexion with the same island.

The city of Zanzibar does not present any striking variation from other Arab towns, unless in the greater number of Negroes. There seemed, however, to be more than the usual proportion of ancient Hebrew and ancient Egyptian

customs. Amulets, composed of a variety of articles strung together, are tied around the heads of infants; and a Soahili at once recognised the purpose of an ancient Egyptian amulet which I happened to have in my possession. Independently of the regular slave trade, child-stealing is practised by adventurers from the outer coast of Arabia, and on much the same footing as formerly, according to Homer's description, by the Phœnicians. The visitor will again be reminded of early Greece, in the attitude and costume of various individuals walking with spears; and some particulars in the construction of these weapons will be found to correspond with the Mosaic regulations.

One article of Zanzibar manufacture is exported in great quantities to the Arab countries—the shallow earthen water-jars, which in their general shape approach the Feejeean.

Since the recent introduction of profitable articles of cultivation, slavery in Zanzibar has assumed a form more resembling its condition in America; and there are now wealthy proprietors and large bodies of agricultural Negro slaves. On the other hand, the state of things commencing through the agency of Europeans in Western Africa, where the "Kroo-men" have of late taken up maritime pursuits, seems to offer some parallel to Arab influence on the eastern coast.

c. *Malayised Negroes.*

This class of people is confined to the immediate vicinity of Eastern Africa, and constitutes the chief part of the population of the Comoro Islands and Madagascar. The languages and customs of these islanders are not Arab, but correspond with those of the East Indies; and most of the plants cultivated have evidently been derived from the same quarter. There are no records and no existing intercourse. Aboriginal Negroes may, or may not, have once dwelt upon these African islands, but the state of things now prevailing is clearly the result of East Indian colonisation.

Indeed, the Malayan race is actually present in Madagascar, and is still dominant there; and as to the time of arrival, it is sufficiently evident that Malay influence has preceded the visits of the Arabs.

The MADAGASCAR people seen at Zanzibar, with the

exception of the two Ovahs already noticed, were all Negroes, who did not even present any distinguishable traces of Malayan admixture. I did not hear that any of them had voluntarily left their native country, but many appeared to be free; and a cluster of their houses was pointed out to me as an example of the Madagascar style of building. All the Madagascar people whose origin I ascertained, belonged to the "Sakalava" nation.

COMORO men were found to be yet more numerous at Zanzibar, where they form a very considerable portion of the population of the city. I was equally at a loss to discover in the Comoro men any traces of the physical Malayan; and some of them assured me that "there are no long-haired people upon their native islands."

Many of these Comoro men were said to be "slaves, who had been sent to Zanzibar, to earn something for their masters;" but others seemed to be really independent settlers and adventurers. These join the Soahili in trading excursions, and thus become the medium of carrying Malay influence into the heart of Africa. They likewise engage in maritime pursuits, and many of them serve on board American vessels, which is hardly the case with the Soahili.

The Comoro men have undergone a double tutelage; the second, not only in visiting Zanzibar, but also from the extension of Arab power to their own islands, where the people are now perhaps nominally Muslim. Among a collection of Arabic pamphlets which I obtained at Zanzibar, several had been written at the Comoro Islands, and some even at Madagascar.

ABORIGINAL EASTERN AFRICA.

On one of my visits to the slave-market at ZANZIBAR, a Negro among the bystanders attracted my attention on account of the rudeness of his dress and his whole appearance. The race was evidently pure; and if there was any peculiarity, it was only in the beard being nearly wanting. On inquiry, I learned with surprise that he was an aboriginal of the island; and further, that having come from an unfrequented district, he was acquainted with the original language. He searched out two other "Hadem," in order that

I might hear him converse in it; but these, it appeared, could only speak Soahili. A vocabulary would doubtless have been interesting, and I regret being unable to give more than a single word, "monakela,"* which signifies "a small boy." Zanzibar, being situated nearly twenty miles from the main land, these circumstances have a bearing on the question of the original population of the Comoro Islands and Madagascar.

The above three individuals were the only aboriginal Negroes I have met upon their native soil; for, notwithstanding that I have looked upon a large portion of the outline of the African continent, it has been my lot to set foot on it only in Egypt and at the Cape. I have, however, seen great numbers of the exported aboriginals, belonging probably to most of the countries that afford slaves; and at Zanzibar I have seen, in addition, a few aboriginal Negro visitors. The following details respecting the tribes which inhabit the main land of Eastern Africa were collected at Zanzibar.

The WANIKA possess the country around Mombas, and their towns were found by Dr. Krapf to be "protected by being built in clumps of thick woods;" it is presumed, against the incursions of the Ethiopian tribes who border on the north and partly on the west. The Wanika are known at Zanzibar only as slaves, and, as such, are in request for the special purpose of "procuring toddy;" for, from living on the coast, they have been accustomed to climb cocoa-palms. Notwithstanding that they were said to be common on the plantations, I fell in with but a single individual.

This man bore the marks of national designation, consisting of a single notch filed between the two upper front teeth, with numerous small scars on the breast. He gave me the following account of himself and his nation: "He belonged to Giriama, a town on the beach, two days' journey to the northward of Mombas. The Wanika extend from Giriama, two days' journey into the interior, and the country beyond is uninhabited." He had not heard of the river Oozy; but from the opposite direction the "Mombas people are con-

* In the Negro languages of this part of Africa, the plural is formed by changing the initial "m" into "w." An instance of some analogy may be remarked in our English "me" and "we."

tinually coming to Giriama. The Wanika fight with the bow and arrow, and, at close quarters, with the sword. The blade is made by the M'Sigua and Wanika from iron obtained partly from the Arabs, and partly dug out of the ground and brought by the Wakamba. The Wanika bury their dead, placing the head to the east; and it is customary, after waiting ten days, to kill a bullock and make a feast, pouring the blood upon the grave. The Wanika are all freemen; and, in regard to his own case, he stated that on the occurrence of a famine about three years previously, families were obliged to sell some of their members to purchase food. The Wanika circumcise, and are all Muslim." Some bystanders, however, thought that they had no other claim to the title, than the practice of the rite as an aboriginal custom. "The Wakamba are friends, and would join the Wanika in fighting against the Galla. The M'Sigua are likewise friends, and come to Giriama: the Chaga do not come, but the Wanika sometimes make visits to the country of the Chaga." With respect to the Ethiopian tribes, he stated "that he had been at the market to which the Galla come to trade, after a journey on their part of two months. They are bad people, but, after having taken an oath, they may be visited. The Galla are rich, but the M'Kuafy are poor. The latter do not come to market, and they once robbed his town, when, being intercepted on their return, they did not succeed in carrying off the booty. He had once visited a place called 'Rombo,' and saw at a distance a town belonging to the Mussai, who are bad people, and are like the M'Kuafy."

A detached tribe of Negroes are found upon the African coast north of the Wanika in the delta of the Juba. The Sultan of Patta termed them POKOMO, and also "Hadem;" and he spoke of them as "rather a good sort of people, who will pull a boat up the Oozy, being relieved at each town by a fresh set of hands. They live on one side of the river, the other side belonging to the Galla. Boats ascend the Oozy, which is excessively winding, for twenty-five days, and no more; and he thought that the Juba must be the same river, since persons proceeding from the mouth of each channel, meet together."

The CHAGA dwell in the interior, to the southwest of

the Wanika, and on the upper part of the Pungany River. A Comoro man stated that he "was fifteen days in reaching the country of the Chaga, journeying towards the setting sun. The party he accompanied was commanded by a Makamba man, who had often conducted similar expeditions, and who knew all the languages on the route. Some Soahili were of the party, but no Arabs. The object in view was to procure ivory, and not slaves; and some M'Kuafy and Wakamba were seen, who were on the same errand. The Chaga have plenty of bananas, yams, sugar-cane, Indian corn, and other cultivated plants. They are bad people, all the same as slaves, black and like Negroes, while the Mussai are like Arabs. The Mussai," if I understood him aright, "look upon the Chaga in the light of slaves; but the two nations circumcise in the same peculiar manner." All accounts of the Chaga agree in representing them to be an agricultural and a Negro nation. Individuals were said to be common at Zanzibar, but I did not succeed in finding any.

In all my inquiries respecting the people of Eastern Africa, I could not hear of pastoral Negroes, nor of Ethiopian cultivators; but there are some undetermined tribes holding an intermediate position along the borders of the cultivable soil, who may offer trifling exceptions. These minor tribes are situated to the westward of the Wanika, and apparently to the northward of the Chaga, and they may be conveniently noticed in this place.

The *Wakamba*, already alluded to, have, by some writers, been termed "Merremengo." Sadik stated that "they are not bad people, but all the same with the Monomoisy; they trade and do not fight. They do not bring slaves, except a few, but trade in ivory." Dr. Krapf, writing from Mombas, considers them a kindred nation to the Wanika and M'Sigua, but as having no affinity with the M'Kuafy, and it may therefore be inferred that they use a Negro language. He further states, that they "live partly among the Wanika and partly extended into the interior, that they throw their dead in the bush, and that some lead a pastoral life, and possess a fine breed of cattle." I did not meet with any of the Wakamba, although they were spoken of as not rare at Zanzibar.

The *Wataita* seem also to be borderers, their country

"commencing not more than a five days' journey from the coast." They were spoken of as "good people, who do not fight unless the Wakamba come out against them." Sadik called them "Wanika, but a different nation." They were enumerated among the tribes pillaged by the M'Kuafy.

The *Tavaiti* dwell to the westward of the preceding: and a girl belonging to this tribe was seen at Zanzibar. She was apparently in the condition of a slave, though not of the lowest class; and she spoke, it was said, neither the Chaga nor the M'Kuafy language. Her hair was cropped close; and from the hasty glance I obtained, I was unable to decide whether the Negro race was entirely pure.

The *Wampugo* appear to be quite a local tribe; dwelling, according to the M'Kuafy lad, "on the river Ruvu, which comes into the Pungany, and not more than half a day's journey from his own country." Sadik said that "they brought ivory, and not slaves."

The MONOMOISY, on the other hand, occupy an extensive territory, which is situated far in the interior of the continent, and is bounded on the west by the "Great Lake." An Arab informed me, "that on his journey to the Monomoisy country he crossed numerous rivers coming from the mountains; none of them, however, of greater depth than mid-leg, and donkeys had been taken the whole distance. He was four and a half months in going, and was absent, in all, three years; but he did not visit the Lake. He returned with a party of seven hundred persons, and was only seventy-six days in reaching the coast." I did not inquire of him the point of arrival; but I would observe, that, according to some authorities, Kilwa (Quiloa) is nearer than Zanzibar to the Monomoisy country.

In some memoranda communicated to me at Zanzibar, I find the following statement of a Soahili, who "was eleven months absent on a similar journey. He saw the Great Lake, which has many islands. The canoes carry from five to fifteen men. He did not go armed while he remained among the Monomoisy. The kings fight much among themselves. The Monomoisy have no money, but they are fond of beads and brass."

I learned, moreover, that the Imaum has some sort of

patriarchal influence with the Monomoisy, and that the great caravans which come to Kilwa and to the coast opposite Zanzibar "bring him a present and look to him for protection during their stay."

Beasts of burden appear to be entirely unknown to the Monomoisy; and the ponderous elephant tusks, when brought to the coast, have been sometimes found to contain a little box or other article, deposited under the fancied idea that "it will lessen the weight." According to Sadik, "the Monomoisy trade only in ivory, and do not bring slaves; but sometimes a bad fellow among them will manage to sell his friend."

One of the Monomoisy caravans reached the coast just before my arrival at Zanzibar; and several individuals, attracted apparently by motives of curiosity, came over to the island. They had a general air of superiority over the Zanzibar Negroes; and some of them were tall and manly in their bearing, and had finer countenances than I have elsewhere seen in the Negro race. Their teeth were slightly filed, but there were no marks or scars upon the skin; and the head was shaved, with the exception of a small tuft on the crown.

I had some conversation with three of them, through the medium of two interpreters. "They had been a week at the coast, which they were four months in reaching, travelling directly towards the rising sun. At the coast they obtain brass, and their armlets and the beads on their ankles were manufactured by themselves from this foreign material. They carry brass to their neighbours on the opposite side of the Lake, who, at the same time, dig brass and cast it, and sell it to them. Their neighbours go to the Malungo, a four months' journey to the westward, but not to the sea, and procure ivory and slaves, passing many nations on the route. The Malungo go to the western sea, likewise, after a journey of four months, and find White people, from whom they procure beads, cotton cloth, and other articles." An intercourse across this portion of the African continent has long been known to exist; and the circumstance is in accordance with Mr. Hale's remark, that dialects of one general language prevail throughout.

The three Monomoisy further stated, that "two days are

required to cross the Lake, sleeping at night on an island, the inhabitants of which are friendly, and sometimes come down to the coast. The length of the Lake is a two months' journey by water," and one of the party asserted that he had been the whole distance. "The canoes keep near the shore, and occasionally land to procure provisions. Sails are not used, and the paddle is held vertically. The water flows from south to north; and sometimes during rains, it rises and covers houses." On mentioning the Moviza and Makua, they said that "the latter were far from them, but that the former, the Wabiza, were near."

"Their own town, or district, is on this side of the Lake;" and, if I understood rightly, its name is "Tengasha;" but "Tarika" was also mentioned. "Every town has its king, and theirs is Kiswagara. Wutumbara, a large town, and the principal one of the Monomoisy nation, is five days' journey from them. Another town, Wajiji, distant from them a ten days' journey, is situated close to the Lake, and has a market, with great abundance of fish. The Monomoisy towns are stockaded, but are all built in the plains, and not upon high hills or rocks." Cannibalism was evidently a new idea to my informants, who shuddered as it was explained; saying, "that there are plenty of tribes who fight and rob, but none that eat men."

"It is sometimes cold in the Monomoisy country;" but my informants were found to be unacquainted with snow or ice, a fact implying the absence of high mountains. "Salt is procured from a hill, distant about two days' journey from their town. Honey is abundant, and there are plenty of wild trees. Coffee is also abundant in the bush, and is not cultivated. Ginger, too, is plentiful, together with a production resembling Cardamum seed, but large."

The "Monomoisy cultivate 'paddy' or *rice*, also *peas* (Cajanus), *beans*, *pea-nuts* (Arachis), *sweet potatoes*, *cassada*, and '*Hindi*' *corn*;" but whether they are acquainted with juari (Sorghum), I could not clearly ascertain. "*Gourds*, the same as at Zanzibar, are plentiful, and are called 'buyu;' and in some places there is *sugar-cane*, which was likewise seen on the journey to the coast." Some Arab bread proved acceptable to two of the party, but was not to the

taste of the third, who asked for dates. A hand-organ at once absorbed their attention, and they listened with great delight.

They added, that "in the Monomoisy country there are neither horses, donkeys, tame geese, nor ducks, but the common *domestic fowl* is well known. *Dogs* are numerous; and there are a few *cats*, which have been carried from Zanzibar. *Goats* and *sheep* abound; also *cows*, which are milked in the morning and evening, and are not used for riding." In connexion with this latter circumstance, it should be noted that bullocks were not seen labouring at Zanzibar, where they belong principally to the Banians, whose religious scruples exempt the female of this animal from all kinds of employment.

The WABIZA (Moviza of some writers), who have been alluded to above, appear to be the neighbours of the Monomoisy on the south. According to another account, "they dwell at the Great Lake, and generally come to Kilwa."

The N'YASA, who inhabit the islands and perhaps the further shores of the Great Lake, seemed to be the most distant tribe known at Zanzibar. Individuals in the state of slavery were not uncommon; and one of them stated "that he was one day in reaching the Great Lake, and spent another in crossing it, making two days to the Monomoisy country."

Another individual, evidently a visitor, had taken up the profession of a strolling musician, and went about collecting corn in small quantities, which he poured into a goat-skin. He had a bow provided with a half gourd-shell, which was applied to the breast, while the string was beaten with a slender wand; and wearing below the knee rows of a rattling hard-shelled fruit something like sleigh-bells, he danced to his own music. There was no regular tune, but only the constant repetition of some half-a-dozen notes.

The M'SIGUA dwell on the coast, and appear to be much scattered among the Wanika, although their proper country, I believe, is south of the Pungany River. Individuals were commonly seen in the slave-market at Zanzibar, where they were recognised by the numerous small scars on the temples.

Dr. Krapf speaks of the M'SAMBARA, who dwell somewhat further in the interior, as "a kindred nation to the M'Sigua,

Wanika, Wakamba, and Soahili;" grounding his opinion, it is presumed, principally upon the affinities of language.

With the exception of the M'Sigua, almost all the slaves offered for sale at Zanzibar had been brought from the southward, and principally from Kilwa. Small dows arriving from that place were crowded with the living freight; and the influx was represented as being much greater at a different season of the year.

The MAKUA occupy the coast immediately to the northward of Mozambique, and trade with that city. They were spoken of as "bad people, who kill the crews of vessels that happen to get on shore; and dows, in consequence, do not visit that part of the coast, unless several are in company." A Makua girl, pointed out to me in the slave-market, bore the national mark of a crescent-shaped scar in the middle of the forehead.

The district of the M'KINDO is back of Kilwa; and a man of this tribe, who was seen in the slave-market, was only "two days in reaching Kilwa." A slave girl, who likewise belonged to a tribe near Kilwa, had a thread-like scar a little below the hair, quite encircling the head.

The country of the M'HIAO is much further in the interior, and must be extensive, since it furnishes a large portion of the slaves offered for sale at Zanzibar. The markings vary in different individuals, but often consist of raised scars or welts, crossing each other like stars. Many of the females have the upper lip perforated; and the opening enlarging with age, at last forms a false gaping mouth, which destroys all natural expression of countenance, and singularly disfigures them. I once observed two M'Hiao women, free residents of Zanzibar, in the act of purchasing one of these elderly deformed persons.

A Soahili, who had travelled by land to the southward along the coast, gave me the following particulars: "The river Lufijy is larger than the Pungany, and has more plantations; dows can ascend it for three days, and canoes for a long distance. The Lovuma is of the same size with the Lufijy; canoes ascend it for more than two weeks, and no one has seen the end. The WAMERA and WAKONDY dwel on the Lovuma; and at the top, the MAVIHA and Makua:" from which latter circumstance it may be inferred that some

of the head waters of the Lovuma are at no great distance from the coast. "All the people coming from the interior walk to Kilwa;" and on my asking why they do not avail themselves of the canoe navigation, he replied, "they do not understand. Silver and gold are unknown to the people of that portion of Africa, and they have no money; but they will barter sheep, goats, and brass beads. They are acquainted with iron, and they dig copper, which is abundant; but they do not know how to compose brass, otherwise there would be no trade. Copal is too plentiful near the coast to be worth the trouble of bringing from the interior; and ivory is the only article of commerce which comes from a distance."

Among many individuals interrogated at Zanzibar, no one had voluntarily entered the condition of slavery; neither could I, from any source, obtain evidence of the existence of such a practice.

On comparing the various circumstances already mentioned, it may, I think, be inferred that if the outlet of the Monomoisy river or lake is upon the eastern coast, it is to be looked for only in the Juba. It may also be observed, that the mouth of the Juba being situated in barren territory, its waters must be derived from a distance, either from the mountains of Abyssinia or from the rainy region to the southward.

Some of the Negroes imported from Mozambique into Rio Janeiro had come from the southern part of the above-described slave-district; and Mr. Hale met with Wakondy, M'Hiao, and Makua. Others, however, had been brought from further south, as "the TAKWANI, from the Zambezi River, and the N'YAMBANA, from Inhambane." The latter were observed to be marked in a singular and unique manner with a row of fleshy knobs like buttons, which had been artificially formed upon the forehead.

SOUTH AFRICA.

There were no KAFFERS at Cape Town at the time of the visit of the Vincennes; but from statuary and other sources I obtained abundant evidence that these tribes belong physically to the Negro race. They appear, however, to be more familiar with pastoral life than their brethren on the north;

but they agree in their dialects, which, according to Mr. Hale, form a subdivision of the same general language.

A fortnight previous to our arrival, some families of the *Fingo* tribe were encamped in the vicinity of Cape Town; but on visiting the spot designated, I found that they had departed. The owner of a neighbouring plantation stated that "a large body of Fingoes once remained there for several weeks, and formed a regular town or 'kraal.' Their hair was exactly like that of the Negro; but the complexion varied, in some individuals being nearly as light as that of the Hottentot, and in others quite black. The men marry as many wives as possible, as by this means they secure at all times a support."

WESTERN AFRICA.

I have seen aboriginal Negroes of Western Africa only at Rio Janeiro, where I enjoyed the advantage of being present during many of Mr. Hale's examinations, and of thus learning the precise place of origin of the different individuals. They mostly belonged to the countries south of the Equator, to tribes speaking dialects "of the Congo-Makuan subdivision of the general language, such as the BENGUELA, KASANGI, and CONGO; the KAMBINDA, from the Congo River; and the MUNDJOLA, from the country back of Loango."

The Negroes from the coast north of the Equator, or from GUINEA, had been brought principally from Mina, a port in the Ashantee country. They, as a class, and particularly individuals from the far interior, were much dreaded by the planters. I saw one man who spoke a little Arabic; and "in the instance of a former insurrection, the slaves were said to have corresponded in this language." For a more particular account of the various Negro tribes furnishing the slaves brought to Rio Janeiro, I must refer to the Narrative.

I would remark, however, in reference to the condition of Western Africa, that the descriptions I have read, exhibit, on the part of the natives, no deficiency in shrewdness and natural good sense, accompanied, however, by a grossness of manners not found in those parts of the world which I have visited.

CENTRAL AFRICA.

Natives of Central Africa were chiefly seen in Egypt, where, through the assistance of Dr. Gasparino, I was enabled to learn the history of a number of individuals selected from the Negro regiment. On inquiring for "Shilluk," several were at once pointed out; but it appeared, that the term as here used had reference to height of stature, rather than to the river tribe bearing the name. The persons designated called themselves JANGA; and one very tall man "came from the mountains, and spoke the Denkawi language." Three other Janga, one of whom was short, were from the plains.

Three individuals called themselves NUBAWI, the name of the class of Negroes who have been already mentioned as well known at Mocha and in Southern Arabia.

One Negro from KORDOFAN termed himself an Arab, and said that his language was the Arabic; and the same account was given by three other natives of that country, although they were all manifestly of unmixed race. Another Negro styled his nation HAMAJAUWI. And two individuals were from FAZOGLO.

It appeared that all present, without exception, came from the Bahr el Abiad or the White River; and as late accounts place Darfour within the valley, it is quite possible that no Negroes may reach Egypt from countries beyond the waters of the Nile.

I did not find in Egypt the scars and marks on the skin, or the filed teeth, which usually distinguish aboriginal Negroes. In the slave-market I remarked among the females considerable variety in the mode of dressing the hair; and much pains had been often taken to form it into rolls, or in other instances into numerous slender braids. I once observed the eyelids coloured with blue paint, as a substitute for "kohhl," which latter material would hardly in this instance have been conspicuous on the complexion. The Negroes seen in Egypt appeared to me unusually slender, even after making every allowance for the style of dress.

The following extract from Leo Africanus, which is borne

out in some measure by Bruce's account of the Shangalla, refers to the primitive condition of Central Africa, prior to the visits of the Muslims. "The land of Negroes was then inhabited by men living in the manner of beasts; without kings, lords, senates, government, or taxes. They hardly sowed corn, had no clothing but skins, and no property in wives. They spent the day in tending their herds, or in labouring the ground. At night they met in little companies of ten or twelve, men and women, in bowers covered with boughs of trees. They never made war, or travelled, but contentedly lived all their days in their native country, and never set foot out of it."

At the present day, three important Muslim-Negro kingdoms are found along the southern border of the Desert: Darfour, Bornou, and Soudan. An account of the two last may be found in the work of Denham and Clapperton. Darfour is less known; although, in the eye of the Egyptian Arab, it ranks as one of the three great political powers which divide the earth; the two others being Persia and Constantinople.

At Singapore I saw two Negroes in the shop of the Abyssinian Arab, who, in their deportment, in their air of resolution and self-respect, seemed a different class of beings from those of their race I had previously met with. On inquiry, I was informed that "the black Arabs come chiefly from Sennaar;" and on regarding the two individuals more closely, I thought I could distinguish the costume of Bornou, as figured by Denham and Clapperton. It appears, however, from Burckhardt, that pilgrims very rarely come from as far west as Bornou; and the probable origin of the above individuals may have been Kordofan or Darfour. The head was habitually uncovered, and one had the wool so close as fairly to justify the appellation of "pepper-haired," which is so universally applied to the race in Eastern countries. They had doubtless come by the way of Mocha. But I did not meet with the same costume on my recent journey.

CHAPTER X.

THE ETHIOPIAN RACE.

THE Ethiopian race is in some measure intermediate in personal appearance between the Telingan and the Negro. The complexion too seems generally darker than in the Telingan race, holding the third rank in depth of hue. The hair is crisped, but fine in its texture; and I have never seen it wiry, as in the Papuan; from which latter race the Ethiopian differs, in having a soft skin and European-like features.

Various modern travellers have been struck with the resemblance of the Ethiopian to the Telingan race. The same circumstance was noticed in ancient times by Herodotus, who also speaks of the remarkable beauty of those living southwest of Arabia;* an opinion in which, from actual observation, I am now prepared to concur.

The Ethiopian race occupies the hottest countries of Africa. Most of its tribes are purely pastoral; and some of them are, perhaps, alone acquainted with all the recesses of the Great Desert. The only portions of the race that are known to lead an agricultural life are the Nubians of the Nile, and some of the tribes bordering on the table-land of Abyssinia.

Characteristic portraits of Ethiopians may be found in various works on Egypt and Nubia; and I would refer particularly to the figures given in Hoskin's Travels on the Upper Nile.

The Ethiopian race was not seen in its purity during the voyage of the Exploring Expedition, but it was doubtless present among some of the mixed Arabs at Singapore. My acquaintance with it commenced on the day of my landing in Egypt.

* Herodotus, Thalia, 101, 114, &c.

NUBIANS.

a. *Barabra of the Nile.*

The Barabra found in Lower Egypt are principally adventurers from the banks of the Nile in Nubia, who seek employment for hire, and after a series of years return to their own country. They are favoured in certain particulars by the government; being "exempted from military duty, and being sometimes employed as task-masters,—an occupation in which they particularly excel." They are extremely clannish; and strong antipathies exist between them and the common Egyptian Arabs. Old residents have assured me, that they have never known in Lower Egypt of an instance of mixed offspring between these two classes. My own servant and interpreter was from Dongola, and he was considered by eye-witnesses as a fair example of the people of his native country.

Some of the boats on the Nile are manned and commanded by Barabra; who, however, hardly form mixed crews, or serve under Arab commanders. These Barabra boatmen appeared to belong principally to the immediate vicinity of the Cataract, where a fondness for the water is acquired in early life; and they perhaps correspond to the "Ichthyophagi of Elephantine" mentioned by Herodotus.

A third class of Barabra are the "Jellab," who procure slaves on the upper parts of the Nile, and conduct them in slave-caravans to Cairo and Alexandria. One individual of this class had the face unusually compressed, a peculiarity noticed by Ledyard, but I did not meet with a second instance.

A fourth class consists of a large portion of the slaves, those who in Egypt are termed "Abyssinians." Such as I saw offered for sale were nearly all children and half-grown persons; having their hair dressed with much pains, according apparently to their respective national fashions. Some of the children proved to be "Galla;" but, through the diversity of dialects, their place of origin could rarely be ascertained; and they, perhaps, had not all been derived from the southern border of Abyssinia.

On ascending the Nile, I met with the first instances of

mixed descent at Kenneh, the modern capital of the Thebaid, about thirty miles below the site of ancient Thebes. Market-women of the Ethiopian race likewise made their appearance at Kenneh; where a change took place in the weights and measures, and cowries were seen used as money; and where articles from "Hindi" were commonly offered for sale, such as black pepper, which had been brought, together with dates and coffee, from Mecca. Above Kenneh, men walking with spears were occasionally met with; and, according to the words of my Barabra servant, "thief had finished."

The true boundary, however, between the two races appears to be at Silsilis, about one hundred miles above Thebes, and forty miles below the Cataract. The KENOOS begin at this point, and with them a change takes place in the mode of raising water for irrigation, a task now accomplished by means of the wheel. I saw numbers of Kenoos, on landing at different places, and particularly at Assouan and Philæ, the limit of my journey. The Barabra boatmen above mentioned hardly appeared to form a distinct class. Contrary to the practice of the Arabs, the women were observed to take much pains in braiding and dressing their hair in a variety of modes; but they had other customs which they had evidently borrowed from the Arabs, as the use of kohhl or eye-paint, and of tattooing; both continued, notwithstanding the deep hue of the complexion. The Kenoos are all Muslims; but they do not appear to regard very rigidly some of the observances of their religion, and swine were seen at Assouan. At the same place I fell in with a body of slaves on their way down the river, and also with an Arab merchant, proceeding with bales of goods to Sennaar.

b. *Barabra of the Desert.*

The ABABDEH inhabit the eastern desert of the Thebaid, between the Nile and the Red Sea; and I met with individuals at Kenneh, and at other towns higher up the river, but principally at Assouan. The Ababdeh use the Arabic language, and they do not understand that of the agricultural Nubians. An opinion, however, prevailed at Assouan, that they once had a language of their own, as the Bishareen

now have, and that it was displaced by the Arabic. The Ababdeh "bring charcoal to Assouan, procuring it within two, three, or more days' journey in the desert; and they occasionally bring ostrich eggs, obtained at a distance of not more than two hundred miles." My Dongola servant expressed surprise at this statement, having supposed that ostrich eggs were at present procured altogether from Kordofan; and he asserted that there were "none now in Dongola, and that Sennaar had been likewise exhausted."

In returning down the river, I fell in with the Shekh of the Ababdeh, who was reported to hold authority likewise over the Bishareen. His personal appearance was indicative of mixed Arab descent, but I did not learn the history of his family. He wore a turban, in consequence, as he said, of being on his way to Cairo; but he intended, on his return, to dress his hair after the fashion of his own country. He was well acquainted with Soakin, where he had seen some of the Somali; and he spoke of the Kostan, as being an extremely troublesome and ferocious people. He was particularly desirous of ascertaining why Europeans came so far to look at antiquities; and on learning that hieroglyphic characters could be read, he considered himself in possession of the secret.

The BISHAREEN dwell in the district to the southward of the Ababdeh, and situated in like manner eastward of the Nile. Two individuals seen at Assouan enabled me to identify the physical race. One of them wore a pin for dressing the hair, similar to the Feejeean, but shorter and curved.

The Ababdeh and Bishareen do not mix with their hair any foreign substance except ghee or butter, which in this climate is entirely fluid, and is an effectual safeguard against vermin. The curved club which these tribes have been accustomed to use, from remote antiquity, is small and light in comparison with that of the Feejeeans.

I could hear nothing in Egypt of the TIBBOO of the central Sahara; and it is possible that they may have no communication with the Egyptian Oases. Herodotus seems to allude to these people under the name of the "Ethiopian Troglodytes;" and they are probably to be regarded as the proper aboriginals of the Desert. According to Horneman

and others, the Tibboo continue in part pagan; and they hold their flocks about the widely separated wells and Oases, some of which are perhaps known only to themselves; yet in their trackless solitudes they are not altogether free from the depredations of the Tuarick and Arab. Some points in their history present unexpected analogy to the customs of the Australians; as their use of a curved missile, and their counterfeiting a lump of black basalt in order to elude observation, as the Australians counterfeit a burned stump. Denham and Clapperton moreover state, that the Tibboo couriers "are the only persons who will undertake singly to cross the Sahara."

On my journey from Cairo to Suez I met the caravan returning from Mecca; but it was unfortunately at night, and I obtained a view of the travellers only by the light of their own torches. There seemed to be a large proportion of Ethiopians, many of them, doubtless, from Nubia; but some, who made inquiries about Alexandria, and maintained a more independent bearing than the Egyptian Barabra, may have belonged to the far west.

The Ethiopian profile has appeared to me to have furnished the model for the Egyptian features of the earliest monuments, as far down as the conclusion of the eighteenth dynasty; and we may otherwise look in vain for representations of a people who at least must have been intimately known to the ancient inhabitants of the Thebaid. I am aware that the Desert tribes have been separately and distinctly delineated, though even here I would appeal to the profile; and after making every allowance for a conventional style of art, those highly finished portraits of Egyptians in which the hair is disposed in numerous slender braids, have appeared to me intended for men of the Ethiopian race. The same rule respecting the hair will, I think, be found to prevail in the mummies (though few of these have proved to be of greater antiquity than the Greek or Ptolemaic period); and the wooden neck-pillow accompanying the mummies was certainly not an invention of men of the White race.

On the monuments of the eighteenth dynasty, men of the White race are frequently represented, but chiefly as slaves, or as foreigners; and they may always be distin-

guished by the profile from the Egyptians. The earliest unequivocal representations of the White race occur in the grottoes of Beni Hassan, excavated during the twelfth dynasty, or towards the conclusion of "the time of the pyramids;" and it should also be observed, that some of the transactions here recorded seem connected with the first appearance in Egypt of the Hyksos or Shepherds.

The portrait of Osortasen I., discovered in Nubia, is, however, of a somewhat anterior date; and it seems to agree best with the White race, so far as I can judge from copies. Most of the monarchs of the eighteenth dynasty, can be clearly referred to the White race; and their portraits, in some instances, are even painted flesh-colour, as one of Rameses III., which I saw at Thebes. It may also be regarded as established, that subsequent to, if not before, the eighteenth dynasty, the Egyptians were regarded as belonging nationally to the White race.

On the other hand, there exists abundant evidence that some of the Egyptian Pharaohs were physically Ethiopians. Eighteen of these were enumerated by the Egyptian priests to Herodotus: and if the place of birth may be regarded as an index in this question of race, the claims of the Elephantinite dynasty would seem to deserve special consideration.

SOMALI.

The Somali inhabit that projecting portion of the African continent which is opposite to, and hems in, the southern angle of Arabia; and they extend along the coast and more or less into the interior, from the Straits of Bab el Mandeb to the river Juba under the Equator. Their country, although arid and intensely hot, affords pasturage, and seems eminently adapted for rearing a peculiar close-haired variety of sheep. The Somali also engage in maritime pursuits; and many of them are to be found established in separate communities, at the principal ports on the lower portion of the Red Sea.

The Somali seem to be very much confined to the above limits. I met with one individual who had strayed as far as *Muscat*. But I saw none of them at *Bombay*, where there

occurred but a single example of the Ethiopian race. I heard of a Somali woman at *Cairo;* but such instances, I presume, are rare. I observed, however, a Somali lad among the crew of the English steamboat on the Red Sea.

The Somali appear to have had very little intercourse with Europeans prior to the recent establishment of the English at *Aden*. On landing at that place, their flaxen locks (stained like those of the Feejeean girls) rendered many of the Somali conspicuous; and where this mark was wanting, their slender graceful forms and their European-like features, readily distinguished them from the Negroes around. They consisted chiefly of young men and boys in search of employment, after having brought from the opposite coast great numbers of sheep for the supply of the town. I also saw a few women offering articles for sale in the market-place. My Parsee interpreter, Manockjee, regarded the Somali as "a better class of people than the common Arabs of the country; for, instead of stealing, they would work, and, if required, the whole night long;" and from his having had much experience at Aden, having even suffered pecuniary loss through a Somali, I have thought his opinion entitled to consideration.

At *Mocha* the Somali women had monopolised the most laborious avocation of Muslim countries, that of water-carriers. At night they all retired to a village apart from the Jewish suburb, and consisting of thatched houses; some of which were in the African style, cylindrical with a conical roof.

On visiting this village, the women were found to perform most of the work for the support of the family, as is the custom with the Feejeeans, and various other points of resemblance were recognised. The unmarried women were in like manner designated by an obvious sign; not indeed by flaxen hair, (which was here worn only by the men,) but by the head being altogether destitute of a covering. Great pains were always taken by the women in dressing their hair, which was sometimes braided into fine cords, and in some instances these cords were united at the ends.

On one occasion I witnessed a wedding-dance, which, contrary to the custom of the Fellah-Arabs of Egypt, was conducted exclusively by the women; and, indeed, it

resembled the Egyptian ceremony only in the clapping of hands. The music consisted of three drums, each beaten by two female performers. The other women danced, two or three at a time, in the middle of the circle, with somewhat energetic but not very graceful movements. It was evident, from the marks of designation above mentioned, that early marriages are not customary among the Somali.

A principal branch of female industry among these people consisted in the making of matting from leaves of the Doum palm, and a variety of articles of this material were offered in the market. The plait was the same that is figured on the Egyptian monuments. The only colours were dull red and black, both of which are common among the Feejeeans, and appear also to be aboriginal in North-west America. The Somali boys brought to market ropes or halters for camels, of very neat workmanship.

The men were not seen engaged in any occupation, though their province was, doubtless, to procure fish, and, in their own country, to attend to the flocks. A small species of anchovy is taken abundantly at Mocha, and dried for the Java market. Quantities of these fish were spread out before the Somali houses, and a curious sight was offered by the gulls and terns persisting in obtaining a share, in spite of the boys who were in attendance; for, as a general thing in these countries, no one thinks of molesting or frightening the brute creation.

The men commonly wore a wooden pin for the hair, or a three-toothed wooden comb, both articles corresponding to those used by the Feejeeans; but, unlike the state of things among the last-named people, the Somali offered instances of baldness. The head was always uncovered in both old and young, and lads sometimes had it shaven. Regularly towards evening the men would assemble to throw the javelin; but their performances were trifling in comparison with those of the South Sea Islanders. Several of the Somali boys spoke a little English, which they had acquired at Aden; and, on one occasion, I found them somewhat free with their tongues, now that they were beyond the reach of English rule.

During the five weeks I spent at Mocha, from the latter part of April throughout the month of May, the tempera-

ture did not fall below 90° Fahrenheit. The Somali, however, did not appear to be incommoded by the intense heat; and that they enjoy more robust health than the Arabs was a subject of common remark among the inhabitants of Mocha.

I learned that some years ago "an English vessel anchored at Berbera, on the Somali coast; when, the captain with others having landed, the natives took advantage of the circumstance to drag the vessel ashore and pillage the cargo." Payment of damages having been promptly enforced by the Anglo-Indian authorities, the affair was said to have had a salutary influence throughout the vicinity. A trader who once visited Berbera, informed me that the natives, after working together during the day, would repair to the beach to fight; often, until some of their number were badly wounded, or even left dead upon the ground.

There were no Somali at *Zanzibar* at the time of my visit to that place, but during the other monsoon they were reported to arrive in great numbers, consisting, as it appeared, chiefly, if not exclusively, of persons who belong to the vicinity of Brava and Mukdusha. My Soahili interpreter, Sadik, recognised a Somali comb which I brought from Mocha, and he was aware of the custom of staining the hair. He stated of the Southern Somali, that "they have many books, which are written with the Arabic character, but in a different language, and that there are learned men among the Somali, who make books. The language is harsh. He had never heard of the existence of antiquities or inscriptions in the Somali country. Each man carries three or four spears, but some have bows and arrows. They cannot fight the Galla, who are the strongest;" but he declared at the same time, that "he had never heard of the Galla fighting the Somali."

DENKALI.

The Danakil tribes inhabit the district north of the Somali, and fronting on the lower portion of the Red Sea; and on a line with Zeyla, they appear to be much extended into the interior. They "speak a different language from the Somali; and individuals visit Mocha for the purpose of

bringing slaves, which they obtain in the interior," and which, it is presumed, are chiefly Galla.

The Denkali were said to "conduct themselves well while at Mocha, but to come only a few at a time." The first individual I met with happened to be of short stature and short-necked; and he might readily have been mistaken for a Feejeean, agreeing even in the disposal of his hair. Points of difference, however, were perceived on a closer inspection; and the other Denkali seen, did not differ physically from the Somali and Barabra.

GALLA.

The Galla tribes have long been regarded as the terror of East Africa, and the extensive region they inhabit has been very little visited by strangers. The Galla are, for the most part, purely pastoral in their habits; but, according to Mr. Isenberg, the tribes bordering on the highlands of Abyssinia cultivate the ground.

The NORTHERN GALLA furnish great numbers of slaves, principally women and children, who are sent by the way of Abyssinia into Egypt and Arabia. In the latter country many of the town Arabs are of partial Galla descent. I did not meet with like instances at Cairo and Alexandria, where, however, the Galla women hold a similar position with those in Arabia. Some of them, moreover, were married to European residents of the first respectability: having been carefully educated, they proved elegant and accomplished companions.

At Zanzibar I met with but one of the Northern Galla, a slave-woman, who called her nation "Chory," and who, according to her own account, came "by the way of Mocha from Massowa." The point of embarkation interposes an objection to affinity with the Bishareen, and she was expressly termed a Galla by the Arabs in company.

The SOUTHERN GALLA are rarely slaves, but I heard of an instance in a "Musagna" woman, who was the only representative of these tribes at Zanzibar. It was said, that in times of scarcity the Southern Galla will sell some of their number, who, however, are not esteemed; for when

directed to perform any service, they will ask questions, or reply "Go and do it yourself."

The nation is well known by report at Zanzibar, as frequenting the western bank of the Oozy, and intercepting the land-route from Mombas to Lamo, and as visiting the settlements on the coast for the purposes either of plunder or traffic. The Southern Galla refuse vegetable food, and live exclusively on milk and meat; the only semblance of an exception that I could hear of, being the fact, that they have been known to "steal corn from the people of Brava."

The Sultan of Patta and an Arab who was present at the interview, gave me the following account of the Southern Galla: "Their country is called 'Bararata,'* and is situated eight days' journey from Patta;" perhaps not including the "two days to the river Oozy, where they come to trade. They bring cattle, which have a hump, and which are greatly superior to the Indian cattle at Zanzibar. They have camels, which they use for carrying burdens, but not for riding. They elect a king every eight years, and the new king circumcises his subjects. They shave the head, preserving a lock of hair on it for every man they have killed. Their king, when sent for, will come to Oozy; and, if a present were made, he would be willing to take an unattended European into the country, and would bring him back in safety; but if several persons wished to go, the visit would be impossible. For the last eighty-five years, or since the time of his grandfather, the Patta people have not been able to go into the Galla country. In person, the Galla are tall and good-looking, and resemble the M'Kuafi, with whom they often fight; both nations having precisely the same description of hair. The Galla have strong beards, but these are habitually clipped. They have no bows; and in warfare they use only the spear (which is held, and is not thrown), protecting themselves with shields. They are very much afraid of fire-arms."

A "Vagugna" man, from Rassini, a town on the coast

* As the transfer of geographical names serves to illustrate history, the resemblance may be here noted to Bahratta or Mahratta, "the ancient name of India."

near Patta, subsequently called on me, and assured me that he had travelled in the Galla country; and he made the following statement:—"After the death of the former Sultan of Patta, there remained two brothers, who were enemies; and when one of them returned from Muscat, the other withdrew with all the soldiers into the Galla country, and obtained protection from the king of the Galla. These two rival brothers died, and the present Sultan of Patta is a fourth brother, and the son of a Galla woman; but they all had one father."

My informant was "one of the soldiers above mentioned; and he was two months in going to Bararata, travelling always west towards sunset, in which direction the country is all Galla. The Gololy Galla are next. After the first day's journey, he crossed no large river; but there was no difficulty in finding water to drink and towns to sleep in. No molestation was offered on the route, it being given out that the party was going to visit the king. Rice was carried for provision; and sometimes the people of the country tasted it, but they invariably threw it away, and contemned the eating of such trash.* He remained among the Galla for ten months, and he afterwards spent two in returning to the coast."

"The Bararata eat beef, which they cook in boiling water; and they mix blood and milk together for drink. They have no corn, rice, nor bananas. *Weembi* (Eleusine coracana) is sometimes planted by their slaves; but the Bararata themselves eat only milk and meat. The men have strong beards, sometimes two feet long; and the king has one which is very large. They shave the head, which is always kept uncovered. They take as many wives as they please; and they live in skin-houses, and are good people. They have donkeys, but not horses. They go out to fight every day; they fight Wama and other Galla, also Gololy and Gingeero (a place I had named), which is close to them." He had never heard of cannibals.

On inquiring about Kaffa, he stated that "the Bararata go to Moorkafa. Bararata is close to Habbusheea, and all the same; and they do not fight. He knew three towns in

* Compare Herodotus, Thalia, 22 and 23.

Habbusheea, but on this side; one of them, a small town, is called Kebong. Some Bararata go to Habbusheea, taking with them ivory and gums (aloes, gum-arabic, and myrrh, all which they call 'lubanum'), but not slaves; and they bring back cloth, which is of the same description with that of Brava."

"He once accompanied a friend, on an excursion to kill elephants, as far as Looggoon, which is a large town. The inhabitants are free, but among them are some slaves. A few are Muslims, and the rest are Kaffri. They have coarse manners, and they pay no regard to the decencies of life. Men and women go naked, with the exception of a girdle round the waist, and a skin cloak over the shoulder. The men do not practise circumcision. They each carry two spears, and they possess many horses. These people go every year to the beach, which is about ten days distant in Hazaeen," or the Somali country. When asked about Massowa, he "thought it was the other side, in Juda country; he had heard one man speak of it. A slave, now living on the main land of Africa, was the only person about Zanzibar besides himself who had visited Bararata."

M'KUAFI.

The M'Kuafi dwell in the interior, to the west of Mombas, and south of the proper Galla country. The following information respecting them was derived from young persons seen at Zanzibar; where, according to the Arabs, slaves of this class were formerly cheap and not much esteemed, but now bring high prices.

A M'Kuafi girl stated, that "she had been captured by the Mussai, who killed her father and mother, and who sold her to the Chaga. She was twenty-five days in reaching the coast. Formerly, her nation was powerful above others; so that one woman with a stick would stop a thousand persons from passing through the country, unless a present was first made; but her people are broken, and at present they would not fight the M'Sigua."

"Her people do not cultivate the ground, and they eat only milk and meat. Children when hungry help themselves by direct application to the cow. Cattle are killed by

piercing the spine; numbers of them every day, until each family is supplied. The M'Kuafi have no fixed meal-times; but they eat whenever they feel inclined, inviting their neighbours of the same village to partake with them. Each family has its own cattle, which all go to pasture together, and outside the town is a place to receive them at night. The men marry as many women as they please, and each wife has a separate house. These habitations are tents of bullock-skin, supported by poles set around. The men decorate themselves with large beads, and their dress is made of skin, and consists of a painted cincture full of openings and hanging stripes, and of a long cloak worn over one shoulder. Cloth, however, is now brought by traders. The women, by way of ornament, coil brass wire about the arm as far as the elbow. The beads and brass wire are procured at Pemba, by selling ivory obtained from elephants, some of which are found dead, while others are purposely killed."

"The M'Kuafi do not bury, but they put their dead in the bush for the wild beasts to eat. The friends afterwards cry from ten to twenty days, and then kill three bullocks and make a feast. The M'Kuafi have neither prayers nor religion, but they eat and sleep. The name of their deity is Angayai, and on some big days they take feathers and dance. They have cows, goats, donkeys, sheep, and dogs, but neither cats nor horses. They take off the fleece of the sheep and spin yarn, with which they sew the skins together. They have gourd-shells for holding water, which are bought of the Chaga. They go out to fight with the Mussai frequently, sometimes every day; and they take cattle: they fight also with the Wampugo and the Wataita, but not with the Chaga. The country of the M'Kuafi consists of mountains and plains, and produces some trees which supply tent-poles, but there are no fruits. Persons while sleeping are sometimes eaten by leopards."

On another occasion the same girl brought two of her companions, and they sung together some simple and plaintive airs, such as are used "in getting children to sleep." Their dancing was not graceful, but was somewhat violent, and not altogether decent. Their language was soft; and I heard terminal vowels only, the two syllables "goonga" frequently recurring. I read to them some translations in

the Galla; but this proved to be a different language, and they did not recognise a word. On being questioned on the subject, the first girl said, "She did not wish to return home, for her relations were all dead;" and some tears followed the allusion to the subject. Beads being offered, she preferred the red to the blue, according to the general taste in this part of Africa. Of the other girls, one came from "Kaputa," and the third from "Aseta."

A fourth girl whom I interrogated was too young to give much information; and she, besides, had not yet learned the Soahili language. It appeared that she "had been stolen by some Chaga; that she came from the vicinity of the Kilmungaro mountain" (which is visible from the sea); and that she "understood the language of the other girls, when they were brought together."

A highly intelligent lad, who had the lobe of one ear perforated, stated, that the size of this opening among the M'Kuafi "indicates the rank of the individual, the king having one of very remarkable dimensions." With regard to his own history, he stated, that "on the occasion of an attack by some foreign tribe, he with other children hid themselves; but the circumstance had been observed from a distance by some Wampugo, who came to the spot and carried them away. The towns of the M'Kuafi are not fixed; but when the grass fails, a new one is made in another place. The M'Kuafi ride donkeys; they eat beef and sheep, and drink water and milk. It is customary when a man kills a bullock, to send a piece to the king, to give away another on account of circumcision, and then to call his friends to eat the remainder. There are camelopards in the country; and poor people, who have no bullocks, kill them for food, taking them in pitfalls, or sometimes with poison. The mode of circumcising differs from that prevailing among Muslims. The government likewise differs; and if one man kills another, the price of blood is from ten to twenty bullocks."

"The M'Kuafi put on a cap of ostrich feathers when they go out to fight. On a former occasion they beat the M'Sigua, taking all the cattle, which they sold at Zanzibar. They fight with the Wakamba, towards sunrise; and they are so warlike, that they would fight even with their nearest

relations. They sometimes go to the Monomoisy country, to fight and take property; but not into the country of the Chaga, with whom they do not fight, unless meeting by accident. They fight, however, with the Lupalaconga, who live on a mountain, and speak the same language with the Chaga," and who, according to his description, must be a Negro tribe.

"His people once went towards sunrise to fight with the Sikirwashi, who are the nation called Galla at Zanzibar. They saw a large river which 'came dry,' and men carrying large spears, who spoke a different language from their own. They took all the cattle, the donkeys, and the fat-tailed sheep; but they disdained taking the horses, an animal they had never before seen. The king of the Sikirwashi wears a large beard, while the rest of the people shave, using for the purpose a sort of small iron chisel; and these practices prevail equally with the M'Kuafi."

When the lad was asked about the Mussai, he rejoined, with some emotion, "they who break my country; he knew them well. They dwell further inland than the M'Kuafi."

He did not know how old he was, and asked "if any one could tell him. His people have no prayers; he could not speak lies. He did not wish to return to his native country; he had got no bullocks. He was now a slave; no matter, he should soon die. He did not know where he should go to after death. He had heard that God made him; that was all."

MUSSAI.

The Mussai hold the country west of the M'Kuafi; and they are the most distant of the pastoral tribes known at Zanzibar. According to the girl above-mentioned, they speak the same language as the M'Kuafi, with whom they agree in not cultivating the soil, and in living exclusively on milk and meat. Indeed, all the accounts show them to be a kindred nation.

My interpreter, Sadik, had conversed with persons who, on a trading expedition to Chaga, saw there some of the Mussai. These were described as being "like the M'Kuafi, but stronger; and as having shields that reach to the breast,

together with long-pointed spears and round-headed clubs, neither of which are missile. The young men only go out to fight, sometimes five hundred of them in a body; and when they capture a town, they put to death all except the handsome women, remaining afterwards for two or three days upon the ground, lest they should seem to run away."

OTHER ETHIOPIANS.

I have felt much uncertainty respecting the physical race of the Fellata of Central Africa, especially as the descriptions of them by Denham and Clapperton seem to accord entirely with the Ethiopian.

The Foula, who dwell nearer the Western coast, are said to be connected in language and customs with the Fellata, except that they are not Muslims; and to differ from the Negro tribes among which they are scattered, in leading a pastoral life. A Foula, seen at the Cape Verd Islands by Mr. Hale, did not appear to him to differ in physical race from the Negro.

A trader at Zanzibar, on seeing the M'Kuafi abovementioned, assured me that he had met with the same sort of people on the Western coast of Africa; but whether these were Foulas, or "Moors" of the Southern Sahara, he was uncertain.

CHAPTER XI.

THE HOTTENTOT RACE.

I AM not sure that I have seen Hottentots of pure race; and in the following account I am obliged to rely in part on published figures and descriptions of them. Eye-witnesses uniformly agree in regarding the Hottentot as differing in physical race from the Negro, and they refer to the diminutive stature and the light complexion; the latter, in some well-authenticated instances, having even been known to exhibit a flush.

Both races seem to be alike in the texture of the hair,

which is more closely woolly than in the rest of mankind; and to agree also in the general style of feature. But many travellers describe the Hottentot countenance as being to a marked degree peculiar.

I am inclined to think that the coloured portrait of a Hottentot woman in F. Cuvier's Mammifères, will prove to be a characteristic representation of the race.

The three days I spent at the Cape of Good Hope were in great part occupied in an unsuccessful search for examples of the Hottentot race. Some individuals of mixed descent were pointed out to me, and I thought I could myself distinguish others. A waggon from the Interior was accompanied by several individuals who differed in their personal appearance from mulattoes; and who, like the other mixed Hottentots I saw, were rather good-looking. Hottentots were said to be extremely serviceable, and indeed indispensable, to military expeditions; as well from their knowledge of the country, as from their intimate acquaintance with the habits of the Kaffer tribes.

I have found many points of interest in the Hottentot character, as portrayed by travellers, who universally bear testimony to the faithfulness, efficiency, and courage of their guides in trying situations, amid the dangers of this difficult and desolate country. Unlike many wild tribes, the Hottentot did not shrink before the advance of Europeans; but readily adopting the habits of civilisation, these people have ever proved active and useful assistants of the colonist, their history in this respect contrasting strongly with that of the neighbouring Kaffer tribes. Indeed, the advantage of the Hottentot character appears to have contributed essentially to the admission of Europeans into this, the only part of Africa that has proved accessible to foreigners; and the benefit deserved a better return than unequal legislation.

The following quotation is descriptive of the wild life led by the Bosjesmans of the frontier, who furnish abundant proof that man in his natural state is by no means a helpless animal. "They live among rocks and woods; have a keen, vivid eye, always on the alert; will spring from rock to rock like the antelope; sleep in nests which they form in the bushes, and seldom pass two nights in the same place, sup-

porting themselves by robbery, or by catching wild animals, as reptiles and insects."

Recent discoveries have shown that the Hottentot race is more widely diffused than was previously supposed, and that it extends in a scattered manner for an unknown distance towards the heart of Africa. According to the testimony of Owen, Morrell, and others, Hottentot tribes occur along the western coast as far as latitude 20° south, and remain, in some instances, still unchanged by contact with Europeans.

CHAPTER XII.

THE ABYSSINIAN RACE.

I HAVE seen but few genuine Abyssinians, and these few have not presented among themselves a very uniform personal appearance. In a general way the race may be said to possess European features in combination with crisped or frizzled hair. The complexion, however, though it is often very light, does not appear ever to become florid.

The race seems to be confined to the table-land of Abyssinia, and to its prolongation in a mountainous tract that extends towards the interior of the continent; but even within these limits there appears to be a large infusion of Ethiopians belonging to the Galla tribes. The Abyssinians, having been converted during the early ages of Christianity, continue to make pilgrimages to Jerusalem; but otherwise, their presence in foreign countries is, for the most part, involuntary.

My first interview with Abyssinians took place at *Singapore;* where, on entering one of the principal shops, I was greatly surprised to find its three occupants differing in physical race from all the men I had previously met with. The wonder increased on perceiving their superiority in refinement and intelligence over the other Orientals around; and that although so unlike, they did not, on these points, seem to fall below Europeans.

The hair was much alike in all three, and was crisped and

fine, neither coarse enough nor in sufficient quantity to form a resisting mass. The beard of one individual was in pellets, absolutely like the close wool of the Negro; but the prominence of nose, greater even than usually occurs in the White race, bore sufficient testimony to his purity of descent. The second individual had the face very much elongated, but the nose was not particularly prominent. The third individual had a straighter beard, which was black and grey in regular stripes, as in another instance already mentioned. The complexion was the same in all three, and though very light, was by no means of a sickly hue; and, indeed, these persons might readily have been passed in the street as belonging to the White race.

The last-mentioned and principal man was an Arab by education, and perhaps partly by descent. He was acquainted with Southern Arabia and Eastern Africa, and he spoke of Americans residing at Zanzibar; he named also, "Yummen, Melinda, and Lamo," but the place he appeared to be most familiar with, was Mukdusha. He had a large stock of Surat stuffs, cottons, and silks, some of them of rich and costly patterns, such as are worn by the most wealthy among the Arabs.

A fourth individual belonging to the Abyssinian race, was seen at Singapore; a woman, who was called a Koffri, and who was living in a European family. She was unwilling to make her appearance before strangers; but a momentary glance enabled me to distinguish the elongated style of countenance above mentioned, unaccompanied by any perceptible signs of Negro descent.

At *Zanzibar*, a rough-looking man attracted my attention, on account of the texture of his hair, which, besides being crisped, was coarse and wiry like that of the Feejeeans. A further agreement was observed in the complexion, but the expression of countenance differed totally from both the Feejeean and Ethiopian, the nose being even upturned. This man stated that "he was born in Habsy; but having been brought away while very young, he did not know by what route he had arrived at Zanzibar," whether by the Red Sea, or otherwise.

All the other genuine Abyssinians met with, were seen at *Mocha*. The first of them was as fair-complexioned as the

Arabs of the middle class, and was even mistaken for one by my Arab interpreter, who, however, on my desiring him to look again, corrected himself, saying "it was different blood." The age of this Abyssinian was about thirty-five years; and he had formerly been a slave, but he had become free. Another individual was darker, and more resembled a mulatto, though an obvious difference was soon discovered in the qualities of the mind; indeed, they both seemed to have a more inquiring disposition than the Arabs, especially as they manifested some desire to be informed about foreign countries. I learned, subsequently, that one of the large ships trading between Mocha and India was owned by Abyssinians.

At Mocha, also, I became acquainted with a young Abyssinian, whose feminine amiability plainly told his history; and who expressed much gratitude for some slight medical assistance. He had been purchased at a high price, and the Arabs stated, that "he was born a Christian, but his master had educated him and had made him Muslim;" a benefit which no one at Mocha thinks of questioning. I was further informed, that eunuchs are exclusively imported from the opposite continent, and that all attempts to perform this operation in Southern Arabia had been attended with a fatal result. All the eunuchs I have ever met with have belonged either to the Abyssinian or to the Ethiopian race; both these races indeed being often combined in the same individual.

The custom of the country precluded me from seeing any of the "red Abyssinian" slave-women, who are so highly prized in Arabia; but I thought I could distinguish in many of the Southern Arabs the marks of this mixed descent.

Among the Somali seen at Mocha, one woman differed strikingly from her companions in her personal appearance, in her light complexion, and in the style of countenance. I supposed at the time that she was an Abyssinian, but I did not learn her history.

I will here insert the opinions of two travellers in Abyssinia, communicated to me orally. Mr. Rochon regarded the Galla as differing physically from the Abyssinians, and spoke of the latter as being "a fine set of people, men absolutely such as ourselves, and capable of doing anything that we can do; except only that they have been secluded from the remainder of the world."

Mr. Isenberg, whom I saw at Bombay, thought that "under the same advantages, Abyssinia might rise to an equality with a European nation. In times of peace there is tolerable security for person and property, and the present condition of Abyssinia is not very unlike that of a European nation when distracted with civil war."

The Abyssinian is the third physical race, which will enter into the question of the primitive Egyptians. The profile of the young person above-mentioned corresponded well with that of the monumental Egyptian; and his shaven head, large projecting ears, and grave expression of countenance, heightened the resemblance. It seems, however, that the true Abyssinian, (as first pointed out to me by Mr. Gliddon,) has been separately and distinctly figured on the Egyptian monuments, in the two men leading a camelopard in the tribute-procession to Thouthmosis III.; and this opinion was confirmed by an examination of the original painting at Thebes.

CHAPTER XIII.

THE WHITE OR ARABIAN RACE.

EUROPEANS and European colonists are comparatively uniform in their complexion and personal appearance, and they can hardly conceal their origin by dress, even amid the population of Northern Africa and Northwestern Asia. The inhabitants of the two last-named countries present among themselves more diversity, although at the same time there is rarely any difficulty in recognising the physical race.

The White race then, as it exists in northern climates, may be characterised by its superiority in lightness of complexion, in thinness of lip, in prominence of nose, and in length and copiousness of beard. No one of these tests is of itself sufficient to distinguish the race, for Abyssinians, in some instances, rival it in prominence of nose; Telingans, or even Ethiopians, in thinness of lip; many Papuans have as copious a beard; and I have myself seen the florid complexion among Mongolians of high northern latitudes. So

far, however, as my observation has extended, flaxen hair, red hair, and blue eyes, (albinoes being excepted,) are found only in the White race.

The hottest portion of the globe appears to be about seventeen degrees in width, counting from latitude 27° North, and extends from the Atlantic Ocean to the Ganges. One third, perhaps, of this immense tract is inhabited by the White race, although often under a physical aspect that would not readily be acknowledged by Europeans. The complexion, always dark, is in frequent instances sufficiently so to conceal a flush; indeed the Malay-brown complexion seems rather to predominate; and I have seen Arabs of a deeper hue who yet were apparently of unmixed descent: moreover, a considerable proportion of the inhabitants of Southern Arabia are nearly or quite beardless. In short, the White race is here protean or polymorphous, and exhibits a diversity in feature and complexion that I have not found in the other races. The prominence of profile is, however, for the most part permanent; and I further remarked that the various series of expressions of countenance, which pertain respectively to the other races, appeared to be absent. It should be observed, however, that actual mixtures of race have been more frequent and more complicated in the southern Arab countries, and have been taking place there for a longer period, than in the other parts of the globe.

While acknowledging that we are only beginning to be acquainted with the countries and people of the East, I have been impressed with one view of the circumstances, in correspondence apparently with an ancient condition of the human family. In the course of my recent tour, I was continually hearing from the lips of Orientals the words of different ancient and modern European languages, until at last the whole class of these languages seemed as if merely recomposed from fragments of Arabic and Sanscrit. Of fragments indeed, which have been disguised more or less by interchanges during some thousands of years; and if any European words can be traced to a different source, they at least remain to be pointed out.

The same state of things appears to exist in the Malay class of languages, and instances have been discovered of English words which can be traced through the Sanscrit to

the remotest islands of the Pacific. The rule may, perhaps, be further extended to the languages of the African continent; but whether applicable in any degree to the Chinese, or to the aboriginal American languages, I am uninformed.

At the present day the White race may be conveniently disposed in two divisions, as well geographical, as differing in institutions and habits of life: the Frank or European, and the Oriental. The extraordinary intensity of heat, in some of the countries inhabited by the White race, may help to explain a portion of these differences.

One of the above divisions may in some measure be said to rule the land as the other rules the sea; for the extent of the caravan routes is almost an equivalent to the universal maritime intercourse now attained by Europeans.

EUROPEAN COLONISTS.

At the present day, Europeans and their descendants, are to be found in most parts of the globe that are accessible by sea; the Eastern coast of Asia, together with New Guinea and the neighbouring islands, forming the only considerable exceptions. This modern extension of the White race, has not been represented on the accompanying map; but it should be observed, that the intrusion on other races, has been much more feeble than is commonly supposed, and that in no other part of the world, has so great a change taken place as in North America.

Although separate notices seem hardly to be required, I have concluded to insert the following; from notes taken chiefly during the progress of the Exploring Expedition.

Madeira, having been discovered in modern times, and having been found uninhabited, must be regarded as a colony; although in the character of its population, it seems rather to form a part of Europe. A week spent at this island, chiefly in a journey with horses, of nearly a hundred miles, afforded me a fair opportunity of seeing the inhabitants. According to an idea commonly entertained in regard to the Spanish and Portuguese, I had anticipated universal swarthiness, with the hair and eyes invariably black; but I found as much variety in complexion and feature as at home, and many instances even of flaxen hair.

The singularly rugged character of the surface (the roads intersecting deep mountain ravines and leading along the brink of frightful precipices), tends greatly to impede intercourse. At San Vincente, on the northern coast, we were told that but three travellers had visited the place during the preceding four months: and one of the Catholic Fathers residing there, had grown grey in that single ravine, which he had never once left since his first arrival.

The peasantry of Madeira appeared to be laborious, civil, and sober; but the idea of political rights, in all probability, seldom enters their heads; it may be doubted, whether the news of the great world around, ever reaches them. In secluded situations we sometimes met with young persons in a state of nudity, and on one occasion, with several who were nearly full-grown. The strange tone of voice everywhere heard, was explained by Mr. Drayton; for it appeared that "the peasantry in their conversation and music, habitually use the minor key."

During the few hours spent on shore at the *Cape Verd* Islands, I saw only three or four Whites; who were residing in the town of Porto Praya. They were sallow and languid; having evidently suffered in their health, from the powerful influence of the sun.

At *Rio Janeiro* I did not find the like marks of a deteriorating influence in the climate; and the popular prejudice against the general healthiness of the Tropics, was soon perceived to be without foundation. In the city, artisans direct from Europe, were seen working steadily at their various vocations; some of which, such as that of the blacksmith, were peculiarly oppressive.

In the course of an excursion beyond the Organ Mountains, I had an opportunity of witnessing some of the hardships of a life in Interior Brazil. I had previously imagined with many in the North, that the bane of tropical climates, consisted in the absence of a stimulus to industry; and that the soil poured forth, almost spontaneously, a profusion of dainties in addition to the necessaries of life; I was, therefore, unprepared to find the stigma of luxury reflected back upon my own countrymen, even upon those undergoing the reputed privations of our frontiers. Among other peculiarities in manners, derived to all appearance from the

parent country, the seclusion of the women may be mentioned; for their existence in certain families, appeared to be known chiefly through report.

During our short stay at the mouth of the Rio Negro, in *North Patagonia*, I did not come in contact with many of the inhabitants. One of the pilots was a Frenchman, and the other an Englishman, and I met with three individuals from the United States.

The remainder, about twenty in number, were "guachos," or mounted herdsmen; who (with the exception of some Negroes) were of Spanish descent, and who were rendered conspicuous in the distance by the scarlet and white of their fantastic dress. It has been said that the guachos, "owing to their being perpetually on horseback, appear personally to disadvantage when dismounted;" I did not remark this, but I saw some well-formed men, who, moreover, did not appear to be deficient in either intelligence or general information. I observed, however, an evident disinclination to walking; and it must be a rare circumstance in this region, to meet a man on foot. The country has such a desert aspect, that it is a matter of astonishment how the great numbers of horses and bullocks are enabled to procure subsistence.

We here began to perceive an influence in the surface of a country, in modifying the habits of its population. In an open accessible region, men in the course of their ordinary pursuits, become accustomed to rove widely, tenfold more than in agricultural districts, or even a hundred fold more, than where hemmed in by close woods.

Northern *Chili*, although less barren in aspect than the country on the Rio Negro, supports comparatively fewer cattle; but being broken and mountainous, irrigation, for agricultural purposes, is sometimes available. The climate seems extremely healthy, as is shown, among other circumstances, by the robust forms of the women of the lower orders. The hospitality and obliging disposition of the country people, formed a strong contrast to the habits of the Brazilians; and extended even to annoyance on our botanical excursions by the offer of horses.

At a ball, given in honour of a victory, I had occasion to admire the good taste shown in the arrangements, and the dancing; an accomplishment in which the Spanish ladies

are acknowledged to excel; and I was also struck with the similarity between such fêtes in this remote quarter of the globe, and those I had attended at home.

It will be difficult to find another continental nation that is so completely isolated by natural boundaries; the Andes forming a barrier to the extension of population on the East, and the Atacaman desert on the North. Chili is generally conceded to be in advance of the other Spanish American countries; among which, it alone has enjoyed internal tranquillity. It should also be observed, that only in one direction can Chili conveniently carry on foreign war.

The English language was found to be making progress in Chili. I often heard it spoken, and I observed translations on many of the sign-boards, both at Valparaiso and in the Interior; showing the numerical importance of customers from England and the United States. Of other foreign residents, those from Germany and France appeared to be the most numerous.

A change had taken place in the relations between the former dominions of Spain, and a severe battle had been fought immediately prior to our arrival in *Peru*. Lima, in consequence, was occupied by Chilian troops; and, in many respects, Peru was a conquered country. At a religious procession I had the opportunity of viewing the military forces of both nations, and of remarking the much greater mixture of physical race among the Peruvian troops; even after allowing for the influence of recent events in filling the ranks in an unusual manner from the Aboriginal stock. According to the census of 1803, the unmixed Whites at that time composed little more than one-eighth of the population of Lower Peru. What change may have since taken place I am uninformed; but I remarked an obviously greater proportion of Whites in the city of Lima, which is the principal resort of foreigners.

Amid the general analogy to the dress and customs of Chili, some particulars have evidently been derived from the aboriginal inhabitants, together with certain gross usages, which cannot fail to arrest the attention of the stranger.

The country-women are often seen mounted upon donkeys; and their peculiar mode of riding, and the ease and grace

with which they descend and remount, have been much admired; while the broad-brimmed hat, the small cigar, and the knife which report places in the stocking, give them a striking air of independence.

There were also circumstances that brought to mind the early date of the settlement by Europeans: such as the novelty in America of a walled city, and the Moorish costume of the higher class of females, even to the concealment of the face when they appear in public.

At the distance of only twelve degrees from the Equator, I did not anticipate finding cloaks in common use. It is true, we had arrived in what was called the "cool season;" but the sky throughout the year is very generally overcast, and, in addition to the frequent drizzle, there is a prevalent feeling of moisture in the atmosphere. There are, however, no proper rains, and provision against running water has been found unnecessary in the streets and buildings. The extremes of cold and heat appear to be nearly 60° and 85° of Fahrenheit; and during our stay (which included June and the beginning of July), we uniformly found the morning temperature below 70°; yet we often heard complaints of the variableness of the climate.

Intermittent fevers are rather frequent, but otherwise the country appeared healthy, although it is evidently less so than Chili. The market is abundantly supplied with an immense variety of articles; and there are probably few spots on the globe where so many luxuries for the table can be procured. But there is one drawback, in the frequent occurrence of earthquakes; for these are events to which the human mind does not become habituated.

The country is, for the most part, devoid of vegetation; and would be uninhabitable, did not streams from the Andes afford the means of irrigation. In the district of Atacama, further south, the streams do not reach the coast.

At the base of the Peruvian Andes the soil was found to be clothed with vegetation; and the inclined roofs of the buildings showed the occurrence of rain. Villages soon became frequent, some of them containing as many as a hundred houses; but the people were in the practice of leaving home to attend to their flocks at a distance, their habits being chiefly pastoral. Their miserable style of

living, while surrounded by abundant means, seemed truly remarkable.

In two separate valleys our party found the last village, about eleven thousand feet above the sea, and precisely at the upper limit of cultivation, which terminated with the tuberous roots of the Tropæolum, Oxalis, Basella, and common potato. Above this elevation is the "paramera," a cold region, avoided by the inhabitants of the lower country, but yet affording pasturage, and containing scattered houses. Moisture increasing with the ascent, the reverse of the state of things in Chili, the Peruvian Andes do not present a barrier to population; and the dreary track along their crest is further enlivened by mining stations.

Already on the Andes, we thought we perceived a feeling of independence of the seat of government; and we were assured, that at their eastern base, in territory nominally Peruvian, one may live in ease and abundance, altogether beyond the reach of the revolutions at Lima.

California, the only other Spanish-American country I have visited, presented a third variation in the costume, which was again fantastic, and unlike anything European. The Californians are mounted herdsmen, skilled in the use of the lasso; and they are as expert in feats of horsemanship as their brethren of the far South. Great ignorance of geography and of foreign countries was found to prevail even among the upper ranks, as we had remarked at Lima.

In the other countries visited by the Expedition, the European emigrants had not acquired separate nationality. They were rather residents; or if born on the spot, they nevertheless did not differ from the population of Europe and the United States.

Two instances came to my knowledge of Europeans trying a residence at the *Paumotu* coral islands. An individual found at Raraka, according to his own account, had been wrecked there; and he was glad to obtain a passage in the Vincennes to Taheiti. One of our own men deserted at Manhii; but we learned subsequently, that not finding his new situation agreeable, he left by the first opportunity.

The *Hawaiian* is the only Polynesian group on which foreigners are established in sufficient numbers to form anything like society. Some hundreds of them, chiefly

from the United States, were residing at the commercial centre, the town of Honolulu.

The island of *Taheiti* has also become an important place of resort for shipping; but its commercial advantages are inferior to those of the Hawaiian group, and we met with but few European residents, who were unconnected with the mission.

Europeans had but recently established themselves at the *Samoan* or Navigator Islands; and, excepting the missionaries, they consisted exclusively of runaway sailors. I met with seven on Savaii; and nearly a hundred were supposed to be scattered about the group,—some following the occupation of pilots, blacksmiths, or interpreters; but the majority content to obtain without labour the means of subsistence; and certain individuals had even adopted the Samoan costume. In various native families, White men were kept as a sort of pet, although "they were at liberty to leave at any moment, provided that they took nothing away." The value, however, of this description of property, within a short time, had much depreciated in the estimation of the natives.

Prior to the arrival of the missionaries, a vessel happened to be wrecked on the Samoan Islands; and, by the advice of the captain, several of the crew took up this profession as a means of support. Some churches were built under their auspices; and one of the persons concerned assured me in all sincerity "that he instructed the natives as well as he knew how."

Intercourse with Europeans had indirectly led to the founding of a new religion, by Siovidi, a native, who had served on board English vessels, and who had formed his plans in the course of a visit to Taheiti. He had met with some success in obtaining followers among the Samoans.

Although *Tongataboo* has been so much frequented, Europeans had not exerted much influence over the minds of the natives. Indeed, a low island like this, which produces chiefly cocoa-nuts and bananas, and is otherwise not an agreeable place of residence, may, probably, for years to come, offer a point of resistance.

There were many European residents round the Bay of Islands, in *New Zealand;* and in the course of our excur-

sions it was ascertained that runaway sailors were living in some of the native villages on much the same footing as at the Samoan Islands.

A short time prior to our arrival in New Zealand, a cession of sovereignty had been obtained from the natives, mainly through the influence of the missionaries. Whatever opinion may be formed respecting the course pursued by these gentlemen, the fact should not be lost sight of, that they were acting under instructions from home.

Europeans have obtained foothold in *Australia* by introducing useful animals and plants previously unknown in that country. The same process, indeed, had to some extent taken place in New Zealand; except that here the native population was more ready to take advantage of the new means of subsistence.

To return to the Tropics. Captain Vanderford, who was making his tenth voyage round the world, and who had witnessed in a sealing vessel the founding of the English colony in Australia, was likewise present at the opening of the trade with the *Feejee Islands*. This was accomplished thirty-one years previous to our visit, by William Putnam Richardson, of Salem; and Captain Vanderford had inherited the middle name of his former commander, the Feejeeans finding the terminal one difficult of pronunciation.

Some convicts from Australia reached the Feejee Islands a little earlier; and among them an Irishman, whom we found still living, after a residence of forty years. At one time this man had attained higher honours than will probably be hereafter conferred on a European; among other marks of distinction, having a hundred wives. And he continued to be a favourite with the natives, although the number of his wives had been reduced to three. His children amounted in all to forty-seven.

At Rewa we found a European wearing the native costume, who had been brought to the place when quite young, and who had no wish to leave, being content to remain in a condition not far removed from servitude.

The White men established at Ovolau were, it is true, dependent for support upon the labour of the natives; but their position clearly demanded more energy of character than a residence among Polynesians. Being well provided

with fire-arms and ammunition, they added to the influence of the chief of the district, who, on his part, was glad to reciprocate the benefit by extending to them his protection. They had put an end, within the limits of his territory, to the practice of cannibalism.

In the *East Indies* we met with but two or three Europeans of the lower class, and these expressed dissatisfaction with their situation, and they evidently could not maintain themselves among the surrounding population. The European residents continue to be confined to those portions of the Archipelago which are under European rule; and they consist of the officers of government, civil, military, and ecclesiastic, and of a few persons engaged in foreign commerce. Persons of European descent, more or less mixed, now form an intermediate class of some importance.

European power in *Hindostan* amounts rather to the possession of the government than to a proper colony; for, should it now cease, there would scarcely be a separate class of population left behind, except only in the instance of the mixed Portuguese.

Of mixed European colonies, the most complicated, perhaps, is the recent establishment of the English at *Aden*, where, without counting the troops, the majority of the inhabitants appeared to be voluntary emigrants from Hindostan.

HEBREWS.

The White men met with previous to arriving at Singapore, had been exclusively of the European stock; and only at that place did the Exploring Expedition come in contact with Orientals—with men physically like ourselves, who yet differed from us in their customs, and who had not derived their arts and acquirements from Europe.

The Jews, indeed, at the present day, are common to both divisions of the race, being spread abroad like a net throughout all the countries possessed by Whites, and even to a short distance beyond, in the instances of Abyssinia and India. Their various adopted countries having for ages exerted modifying influences, four classes may now be distinguished in the Jewish family: the Syrian, Indian, Arabian, and European Jews.

I first saw SYRIAN Jews at Singapore; some ten or twelve individuals, who were robed and turbaned, and who in person appeared to advantage among the surrounding population. The complexion was fair; and in a different costume they probably would not have been distinguished from Europeans. One of them, who spoke English, invited me into his shop, and stated, in the course of conversation, that "he came from Aleppo when quite young, travelling by land with his father to India." He knew nothing of the Malabar Jews; and in respect to the origin of Black Jews, he showed us one in his service, who was of mixed Telingan descent. He was unwilling to acknowledge the fellowship of European Jews, some of whom he had seen at Calcutta; objecting, that they shaved the beard, and in various other particulars he thought they had departed from the law. He spoke of a European Jew then residing at Singapore; but said that "he should never think of questioning him on the subject of religion unless on the occasion of a proposal to marry a daughter."

At Bombay I saw a Jew who, about twenty-five years previously, came by land from Jerusalem. He stated, in regard to his journey through so many foreign countries, "that he found Jews along the whole route, with whom he could communicate in the Hebrew language."

The agent of the English government at Muscat, a Jew, probably of the Syrian class, died a short time previous to my arrival at that city. I saw there, however, a young Jew from Bagdad, whose scanty turban included the Egyptian "turboosh," and who wore a side-lock, differing, however, in some respects, from that of the Arabian Jews. He carried a rosary or string of prayer-beads, like the Catholics and Muslims—a custom of high antiquity.

A Jew had resided for several years at Zanzibar, to which place "he came in a dow," it is presumed, for purposes of commerce. I did not learn his further history; but, from his allowing the whole of his beard to grow without regard to side-lock, I supposed him to be a Syrian Jew.

I did not observe the side-lock among the Jews of Egypt, who likewise belong to the Syrian class. They inhabit a distinct quarter of the city of Cairo, where, as in Europe, their principal occupation appeared to be dealing in money. Their traditionary accounts of Egyptian matters have not

proved to be of much value. On viewing, however, the scenes of their early history, one can better realise the wonderful and unique development of a whole nation from a single family.

At Bombay the INDIAN Jews form a considerable body of artisans among the lower orders of the population. The greater proportion of them distinguish themselves as Beni-Israel; and, in the opinion of competent inquirers, the title had not been lightly assumed. Polygamy, I was informed, "exists among the Beni-Israel, but principally when the first wife proves barren; and the ancient custom of marrying a brother's widow is not continued."

In such of the Beni-Israel as were pointed out to me, I did not perceive any peculiarity in personal appearance distinguishing them from the rest of this Jewish community, which presented an unexpected variety in feature, complexion, and even in costume. I observed, however, one point of agreement, in the head being shaved; entirely, in some instances, but usually in such a manner as to leave traces of a side-lock. The head-mantle, apparently a relic of the life of their forefathers in the Desert, was used in the synagogue; and their religious service was the more impressive, as being practised in the midst of an idolatrous population.

"A few years ago the Bombay Jews were in a very low and degraded state, being dependent for the little Hebrew they possessed on the Arabian Jews, by whom they were held in very little consideration. The attention of the missionaries having been turned in this direction, the Bombay Jews were supplied with printed copies of the Scriptures; since which time their knowledge of Hebrew had become more general, and their condition, in other respects, had improved. They had expressed much gratitude for the benefit, saying, that the sun then rose upon them for the first time."

I saw numbers of ARABIAN Jews at Aden, which place seems to have been principally inhabited by them, prior to the English occupancy. They appeared to have preserved more of the primitive Hebrew customs than I have seen among their brethren in other countries. Their style of architecture offered unexpected analogy to the ancient

Arabic, as depicted on the Egyptian monuments; the buildings being devoid of arches and of all curved lines, but having square towers with battlements, and at each story a projecting ledge.

The men wore long side-locks, reaching from above the ear to the shoulder; and these may, perhaps, constitute "the corners of the beard," in the passage of Scripture which has sometimes been differently interpreted. The women had their eyelids and eyebrows painted, and they wore a large silver ring in the nose, and numbers of similar ones in the ears: children sometimes had their ears folded downwards with the weight of the rings inserted around the margin. Education, as among the southern Arabs, was general; and all the children attended school.

In this scorching climate the Jewish complexion, instead of being in any degree florid, presented a universal tinge of yellow; but it was obviously lighter than the hue of the common Arabs of the country. Some of the boys had a coarse expression of countenance, combined with flaxen hair; reminding me of faces seen occasionally in Northern climates, and at variance with the usual Jewish physiognomy. I do not remember, on any other occasion, meeting with flaxen hair among the Orientals.

It would seem that the Hebrew is not altogether a dead language with the Jews of Aden; but they commonly use the Arabic, which they write with the Hebrew character. I obtained from them a copy of the Pentateuch, "written at Sanaa, in the Interior;" and I saw another work in the Hebrew character, which "had been brought from Bagdad." It was said that the Aden Jews refused to hold communion with their Indian brethren, who had been brought to the place by the English, and that they worshipped apart.

The Jews at Mocha lived outside the walls of the town, in a village by themselves; and they consisted of artisans, especially builders, as at Aden. Notwithstanding a residence for many successive generations, the complexion remained lighter, and the beard longer, than in the Arabs of Mocha.

With respect to the Jews of Abyssinia, geographical considerations would lead us to suppose that they were originally derived from Southern Arabia, rather than by the route of Egypt and the Nile.

While at Zanzibar, I asked one of the best-informed Arabs, whether he knew of any place bearing a name similar to Ophir; he at once mentioned "Thofar or Dhofar," a well-known town on the southern coast of Arabia. He found no resemblance in the word to "Zofal" or Sofala, a country of which he had often heard, and which an Arab then in town had visited. On reflection, it has appeared to me that Dhofar may very well have been the limit of the voyages of Solomon's ships; taking into account the monsoons, and especially the length of time subsequently occupied by Darius's Expedition from the Indus to the head of the Red Sea.*

ARMENIANS.

Of all Orientals, the Armenians, next to the Jews, are most frequently to be met with in the society of Europeans. They do not occupy much space in history; but it seems a remarkable circumstance that, without any decided distinctive traits, they should have preserved their nationality from remote antiquity.

My acquaintance with Armenians commenced at Singapore; and from their European costume, their florid complexion, their manners and familiar use of the language, I did not at first suspect them to be other than English. They were engaged in commerce, and some of them had acquired great wealth. The Armenian church gave evidence of a taste for architecture, that seemed hardly to have been acquired through modern Europe; and unexpectedly, in the East Indies, brought to mind Balbec and Palmyra.

Indeed Rome was often spoken of by the Orientals at Singapore; a circumstance that, with the various antiquated expressions and trains of thought, at length reminds one that the "Eastern Empire" is really extant, in the rule of Constantinople. A Muslim at Singapore once invited me into his shop, and questioned me respecting American institutions, for the evident purpose of satisfying his mind, whether my countrymen were really without a king.

The range of Armenian emigration is chiefly a northern

* See Herodotus; Melpomene, 44.

one, extending from the Mediterranean, by the way of Constantinople, to Northern Hindostan and to Calcutta. I heard nothing of Armenians in the Arab countries, nor in Southwestern Hindostan, except at the city of Bombay. Here I saw several of their tombs in the European burying-ground, and I remarked that they were provided with a niche for burning incense, like those of the Indian Muslims.

In the Mediterranean, Armenians are now frequent passengers in the steamboats to and from the Levant; a circumstance attributable, in a good measure, to the extent of their commercial relations. Many Armenians are doubtless settled in the principal cities of the United States, although their presence may not be generally known.

ASSYRIANS.

I have not heard of any modern distinctive name for the inhabitants of the valley of the Euphrates, and I have therefore had recourse to an ancient appellation. The district is well known on the Indian Ocean, as belonging to Turkey, its southern angle being interposed between Persia and the territory of the Arabs. Formerly it was the seat of the power of the Caliphs; and although the lower country has been much overrun by Arab tribes, I believe there is some separate nationality remaining.

While conversing at Singapore with a Barbary Arab, an individual interposed, with great ease and address, to assist in the interpretation. His polished manners, and the graceful disposition of his turban (an art regarded as very difficult), at once attracted attention. According to his own account, he belonged to Babylon (Bagdad). And in reply to a question respecting the personal appearance of the Bedouins, he stated, that "some of them were white, others brown, and that some were black." The conversation, however, was soon interrupted by his withdrawing, having taken umbrage at the rudeness of European manners. His complexion was at least as fair and as clear as that of any northern European; and, in costume and mental refinement he differed widely from the Turks of the Mediterranean.

From the geographical position it seems probable that many natives of the valley of the Euphrates, visit Hindostan

and the shores of the Persian Gulf; but none were pointed out to me on my recent journey, and, perhaps, they are not generally distinguished from other Muslims.

MOGULS.

I have not found a more convenient name for the modern Persians than that of Moguls, which I sometimes heard applied to them at Bombay; but the term, I believe, is also used in reference to rank. Numbers of these Persian emigrants were settled at Bombay, where they were distinguished by wearing, in place of a turban, a high pointed cap, made apparently of black lambskin. They seemed to be a rude, hardy, able-bodied set of men; and they were, perhaps, all of them from the Northern section of the country; for Persians wearing a different costume will be spoken of hereafter. They belonged among Muslims to the sect of Ali.

I saw none of the above class of people at Singapore. But in the streets of Cairo I once met with several strangers who wore a somewhat similar dress, and who had, doubtless, come either from Persia or from a neighbouring country.

AFGHANS.

Afghans were spoken of as being by no means rare at Bombay; and I met with two or three individuals wearing the Afghan dress, as this was described to me; but in the absence of my interpreter I could not ascertain their place of origin.

Some "Cabul people" were once pointed out to me at Bombay. These differed from the preceding individuals in their costume; and they strongly resembled the Sindians and Bedouins of Northwestern India. They wore a hemispherical cap on the top of the head.

SIKHS.

Sikhs were well known at Singapore, which place they had reached by the route of the Ganges and Calcutta. An individual was pointed out to me, who was perhaps not a

fair example of the nation, and who was obviously of mixed descent. His complexion was as dark as that of the Telinga people, but he presented points of resemblance to the Ethiopian, and even to the Negro race. Notwithstanding that the Panjab, or country of the Sikhs, is situated on the waters of the Indus, I did not meet with any of these people at Bombay.

PARSEES.

The Parsees are the living representatives and remnant of the Persians of antiquity. And they continue, as in former times, to reject image-worship, and to pay their adorations to the elements, holding that of fire in more special reverence. They agree even in various minor particulars which are related by Herodotus of their forefathers,* as in "their names ending without exception alike; in those words which are expressive of personal or of any other distinction, terminating in the Doric san, which is the same with the Ionic sigma; and in their dead being never interred (placed in the cemetery) till some bird or dog has discovered a propensity to prey on them." When compared with the Parthians of a somewhat later period, the points of resemblance will be found to be yet more numerous.

Resident Parsees were spoken of at Singapore, but I first met with individuals at Aden. Their settlement here was in consequence of the English establishment; and, unlike the Banians, they are not found in other parts of Arabia. At Zanzibar, indeed, I met with two or three Parsee artisans, who had been engaged by the Imaum for temporary employment. The servants in some of the Bombay steamboats were Parsees; and one of them, seen in full costume on the road to Cairo, reminded me of the strangely different auspices under which this people, after the lapse of ages, were revisiting the Valley of the Nile.

The present head-quarters of the Parsees is at Bombay, where, although possessing a less amount of wealth than the Banians, they have become the most prominent class among the native population. They vie with their English rulers

* Herodotus; Clio, 131 to 140, &c.

in their country-seats and showy equipages; and some of their houses have a profusion of costly furniture. Their commercial relations extend on the east to China, and, of late years, they have even exported to Europe the produce of India. They excel also in ship-building, having constructed most of the vessels belonging to the Imaum of Muscat; and some ships of the line, built by Parsees for the English government, are ranked as master-pieces.

In one wealthy Parsee family the father bequeathed his estate to four sons and a daughter, with instructions, "in case they should not agree, to divide it when the youngest became of age." Since the latter event, seven years had elapsed at the time of my visit, and the property remained intact. The Parsee who visited England, and who has published in English an account of his travels, is one of the brothers of this family.

At the country-seat of a wealthy Parsee I was shown the apartment of the proprietor's father, who had been dead "for eighteen years." This apartment was kept precisely as if he were still living; his bed was made every day, and, at the same time, a vase by its side was supplied with fresh flowers. No religious ideas were connected with these attentions, the design being solely and literally to cherish the memory of the departed.

Charity forms a leading principle in the Parsee institutions; and, according to English testimony, the habitual discriminative exercise of this virtue "renders the Parsees a blessing to those districts in which they establish themselves." In fact, the closing scene of life is with them a deed of charity, in the consignment of their bodies to the vultures.

The Parsee cemetery, on a height near Bombay, was found to consist of several low round towers, open above, and built of stone. The bodies are deposited on an interior ledge which slopes towards a central pit; and the remains of the men, women, and children are scrupulously kept separate in three concentric rows. There was a separate tower for the children of Parsees by women of other religions—the half-castes being admitted into the sect, but not their mothers.

The complexion of a few of the Bombay Parsees does not materially differ from that of Europeans; and, as their fore-

fathers all came originally from the north, this was doubtless once the national hue. Sometimes I thought I could distinguish a European cast of features, not seen in other Orientals; and one individual, in his personal appearance and manners, offered an unexpected counterpart to a Scottish friend of mine. Other Bombay Parsees were as dark or darker than Malays; owing, doubtless, to repeated intermarriages with the women of their adopted country.

The Parsees shave the head, and wear a round inner cap like that of the Arabs. They usually preserve the mustache, but they always shave the chin. Sometimes a portion of the hair is left on the sides of the head, in continuation of the whiskers; in accordance, in some measure, with the practice of the Pharaonic princes. The dress of the Bombay Parsees has varied perceptibly within two or three generations, but always within certain limits, as in respect to the fulness of the robe.

The costume of the women throughout the East has a general similarity, whether among the Arabs, Hindoos, or Parsees. Unlike, however, the practice with the higher class of Arabs, the Parsee women do not conceal the face.

When a Parsee woman proves unfaithful, "she expiates by poison the disgrace brought upon her husband and upon the relations on both sides;" and an escape from death, notwithstanding the supremacy of English law, was deemed to be nearly impossible. Marriages take place during childhood, and the father of the boy often spends his whole fortune upon the ceremony; a custom which has also descended to the Muslims of India.

The Parsees wear a religious cord, and they present other points of affinity with the Bramins. They regard certain animals as unclean, and among them the swine, a point in accordance with the Jews and Muslims.

"Mohammed Shah, the present ruler of Persia, greatly favours the Parsees, and they are now in a flourishing condition in their native country. Individuals are continually coming from Shiraz and Yezd, and they are received at once by their Bombay brethren. The emigrants do not on their arrival understand the Guzerati language, but they speak Persian only, and they wear the modern Persian dress." Mr. Allen had conversed with one of these emigrants who

came from beyond Cabul, and who complained greatly of the corruption of the Parsee religion at Bombay.

The modern profanation of their revered element, by the custom of smoking, has not hitherto extended to the Parsees, and I found that my not practising this custom had been remarked by them. It is commonly said that Parsees will not fire a musket, but one of the sect assured me that his people used muskets at the time when they fought with the Muslims.

The same individual spoke of the great power of the Parsees in former times and of its sudden departure. He accused the Arabs of having "burned their great library; reserving only such books as related to the resources of the country, with some ancient history." And he added, that "the few Parsee books now extant relate only to religious subjects, and were brought by the refugees" who found an asylum in India.

THE ARAB COUNTRIES.

a. *Arab Colonists.*

Numerous adventurers from Arabia are scattered around the shores of the Indian Ocean and among the East India islands, seeking often a permanent residence in countries more desirable in every respect than their own. The Exploring Expedition first met with an Arab at *Sooloo*, who has been already noticed while speaking of the Malayan race.

At *Singapore* various individuals of dissimilar personal appearance, and even differing in physical race, laid claim to the title of Arabs. Moreover, we were here introduced to the extraordinary diversity of aspect which, independently of mixtures of race, prevails in the southern Arab countries.

I well remember my first interview at Singapore with an Oriental whose brown complexion and prominent profile perplexed me. With my subsequent experience I should at once have recognised this man's affinity, though even now I would not undertake in all instances to point out the physical White.

Once about sunset I visited the principal mosque. And on inquiring if there was an Arab present, an elderly man of

meagre form came forward, whose thin lips, arched nose, and fair European complexion would anywhere have vindicated his purity of race. With his white robes and peculiar turban, he made a picturesque appearance amid the motley group of Muslims from various and distant lands, who had assembled to testify a sense of dependence on divine power.

The self-styled Arab spoke such bad Malay that my interpreter could make nothing of it, until the Babylonian interposed as already mentioned. His history was told in the following words: "Mogreb," the West; "a year's journey with camels beyond Mecca; Arifat, Iskander (Alexandria), Tunis;" and something was said about "eight or nine days' journey beyond Tunis." Here then, at the furthest limit of the wanderings of the Orientals, was a man who had travelled from as far west as England, and chiefly by land! A circumstance that will appear the more extraordinary, after counting in a fast-sailing ship the weary days consumed in traversing a third of the circumference of the globe. Moreover, so far as regards travelling facilities, the above journey might have been made a thousand years ago; and as readily, perhaps, as at that period one from Rome to London.

b. *Arabs of the Mediterranean.*

I am now enabled, without deviating much from a strict classification of the people met with, to give a connected account of my second Voyage.

I left Boston on the 11th of October, 1843, in the barque Stamboul; and after a voyage of about twenty-five days we entered the harbour of *Gibraltar*. Here we remained for the greater part of a day; but, owing to some formalities in the port-regulations, I was debarred from landing, and from seeing, in all probability, some of the countrymen of the above mentioned Barbary Arab. I am not aware that I subsequently came in contact with more than one, a recluse from Algiers, who had taken up his residence at the cataract of the Nile. As, however, Barbary Arabs are continually passing through Egypt with the Mecca caravans, I may have fallen in with individuals without distinguishing them.

In November we arrived at *Malta*, where I remained three weeks waiting for a passage to Tripoli, but the pro-

spect of further delay induced me to abandon my intention of visiting that place. The little intercourse between the inhabitants of the northern and southern shores of the Mediterranean, seems a surprising circumstance to a stranger from the United States; especially when it is considered, that this little is chiefly carried on through Gibraltar and Malta. The identity in language has contributed to throw the traffic into the hands of the Maltese; numbers of whom are now settled around the southern and eastern borders of the Mediterranean.

On my subsequent visit to Malta I was better prepared to distinguish the many coincidences with the customs of the Arabs, as in the style of architecture, in the female dress, and in the fashion of early marriages. Also, in the four-pronged anchors, such as I had seen used in the Indian Ocean; where, moreover, I had been reminded by the practice of towing a boat under sail, of some of the incidents narrated in the Voyage of St. Paul.

The painted row-galleys of Gozo offer a decided approximation to the antique Mediterranean model; and the inhabitants of this neighbouring island, which from being without harbours is very little visited, have retained more of their ancient usages than the Maltese. I sometimes witnessed the transhipment of Alexandria wheat, for distribution to surrounding ports; Egypt being, as in the time of the Romans, the granary of this portion of the Mediterranean.

The antiquities of Malta, although consisting principally of fragments, are extremely interesting; especially on account of the intimate relations between this island and ancient Carthage. The variety is unusual, including Phœnician or it may be Carthaginian, early Greek and Etruscan, Egyptian, Roman, Saracenic or Muslim-Arabic; and another class already alluded to, which may receive the provisional name of Mauritanian.

On the 8th of December, I left Malta in the French steamboat, and on the second day after we were close in with the rugged mountainous land of *Greece*. Although forewarned by an ancient writer, that "Greece was always the child of poverty," I did not anticipate the aspect of sterility. Among other undulations of surface offered to

our view, was a valley, remarkable only for having existed in the reminiscences of three thousand years; a young Turk, who happened to be looking in that direction, pronounced its name, "Sparda."

Astonishment may well be excited, that such a district should have brought Xerxes out of the depths of Asia. Even in modern times this further peninsula is said "to have been never actually conquered; the Turks contenting themselves with requiring only some trifling tribute."

On the 11th we arrived at Syra, where, with other passengers, I was immediately transferred to the Alexandria steamboat. I counted at Syra, no less than eleven vessels in the course of building; for the Greeks, as in former ages, still hold the navigation of the eastern division of the Mediterranean; their vessels being comparatively rare to the westward of Malta. The Greek costume is in many respects half oriental, like the position of the country; and, indeed, the people themselves, according to Eastern classification, are hardly ranked among Franks or Europeans.

I had previously seen Greeks at Malta, and even in one or two instances persons wearing the Oriental costume. Several Greeks and Muslims from Constantinople and Smyrna were now deck-passengers in the Alexandria steamboat. Some embarrassment arising in consequence of the quarantine regulations, a good-natured man addressed me in English; and while in the midst of Europeans, I found myself under obligations to an Egyptian Arab. My acquaintance thus commenced with Ishmael Moosa, who had accompanied a party of travellers through Syria and Asia Minor, and was now on his return. He complained of the quarantine house at Syra, and at the same time spoke rather lightly of the Greeks in general.

In respect to his own country, he stated that the people of Upper Egypt "are all black—the climate turns them black." I remembered that the same words had been used by Herodotus, derived perhaps from a not very dissimilar source; and as they have given rise to controversy, I will mention, that on subsequently meeting Ishmael Moosa at Thebes, he took occasion, in manifest disregard of the evidence of the senses, to repeat the assertion.

We obtained a distant view of Crete and of Mount Ida;

and on the 14th we reached the low shores of *Egypt*. The first glance on landing at Alexandria sufficed to dispel all ideas of romance as connected with Oriental life.

Excepting my slight introduction at Malta, I was now for the first time within the territorial domain of history; and passing the modern village, I looked around, expecting to see ruins. What had become of the great city of Alexander, for so many centuries the emporium of the world? The ground was only hilly and uneven; and a cultivator complained of its being "stony," meaning by the expression the fragments of pottery.

Two objects, however, still mark the site of the ancient city; and towards one of them, on the following day, I directed my steps. The cabins of the South Seas were palaces in comparison with the low mud hovels on the way, and the whole neighbourhood was disgusting. On reaching the base of the obelisk my attention was principally engaged by the size and the bold sculpture of the characters, seemingly designed to transmit a record through ages of barbarism. The dimensions of the stone were sufficiently astonishing; and I next considered the intellectual attainments of the existing population. Turning to my Barabra guide, "Ali," said I, "who do you think placed the stone here?" His reply, coming from an unexpected source, startled me; "Pharoon."

Richly carved capitals and columns, some of marble, some of polished porphyry, and some of granite, had been here and there dug out of the ground, abundantly vindicating the splendour of the ancient Grecian city; and I occasionally remarked a fragment which had proved too massive to be of use to modern Egyptian architects. My Barabra guide pointed out these various antique relics, referring them always to "Sooltan Iskander," and only in a single instance did I find him at fault—in that of the unmeaning Roman column which he persisted in attributing to Pharoon. On a subsequent occasion the accuracy of the popular tradition was most unexpected, for Ali declared that "he did not know the builder of the Pyramids, who, however, was certainly not Pharoon."

On the 20th of December I started for Cairo in the steamboat, by canal and river. Owing principally to the groves of date-palms planted around the villages, the character of

the scenery is rather Indian than European. In ancient times the people of the Mediterranean knew of the tropics only by the valley of the Nile; which, notwithstanding its two foreign palms, affords but a very slight insight. At Cairo, I had the good fortune to meet with Mr. Bonomi, and I was thus at once initiated into the subject of the Egyptian antiquities.

I visited the Pyramids, placed like a rock in the current of time: a spot where the mind is directed to the roll of empires. I witnessed the perfection of masonry in the workmanship around the entrance of the great Pyramid; and the fact also that the principle of the arch is carried out in a neighbouring coeval tomb. While at Saccara, the beauty of the sculptures in a tomb of the sixth dynasty seemed to justify Herodotus in his exalted commendation of the Labyrinth.

Of human works, the most ancient not only promise to endure the longest, but they bear the impress of superior skill and of extreme purity of taste. And the decline of art in Egypt is clearly referable to the Pharaonic ages; to the accession of the eighteenth dynasty. A point of higher interest is the fact, that the earliest Egyptian monuments appear to have preceded the origin of idolatry; but this question, with many others relating to the same period, may probably be decided by the researches of Lepsius.

At Thebes, once the mistress of the world, the remains are nearly all Pharaonic, and in a corrupted style of art; yet they present a greater variety of subjects of interest than the antiquities of Lower Egypt, or those of any other country.

In the tombs of the Pharaohs such is the freshness of the unfinished paintings, that one can hardly avoid expecting the return of the artist to his task. The excavations are in a material which resembles lithographic stone, and which is admirably adapted for painting in a climate devoid of the elements of destruction. But it must not be supposed that Egypt is mainly indebted to this circumstance for the abundance of antiquities, since the climate of various other countries is equally favourable for the preservation of the works of human hands.

Although I may appear singular, I confess being interested in the Egyptian colossi. These are by no means

simple enlarged figures of men, a kind of work that does not require genius; but they have lines not strictly anatomical, which yet appeared peculiarly expressive of physical strength. Among the numerous colossi at Thebes, the largest excites astonishment, not merely from the size and the freshness of polish, but from having been subjected to a mechanical force capable of rending it.

The mode of warfare described by Homer is abundantly illustrated on the walls of the Theban temples. Here are portraits of individuals, costumes of foreign nations, military campaigns in distant lands, and other evidence of great international events, most of them anterior to written history. In fearful pre-eminence among the records of carnage, the most recent of the larger temples bears the battles of Sethosis. This Pharaoh preceded Alexander by about a thousand years, and a narration of his career is given by Manetho with much simplicity and dignity in the following words:—"Sethosis then made an expedition against Cyprus and Phœnicia, and besides, against the Assyrians and the Medes; and he subdued them all, some by his arms, some without fighting, and some by the terror of his great army; and, being elated with his success, he went onward the more confidently, and overthrew the cities and the kingdoms of the East."

While ascending the Nile, I remarked, among much individual variation, that the complexion sensibly increases in depth, until in the Thebaid the Malay-brown hue is not uncommon. This gradual change takes place in both Copt and Arab, and, to all appearance, is independent of mixture of physical race; although individuals might readily be selected who in Europe and the United States would not be recognised as Whites.

With the exception of the Copts, the modern Egyptians all rank themselves as Arabs. I found, however, that the people living near the Pyramids, on the western margin of the valley, equally claimed Berber or Lybian descent. The circumstance seems to favour the suggestion of Hodgson, that the Lybian was once the spoken language of Egypt. The coincidences between Lybian and Sanscrit words are numerous; and the point might be worth ascertaining, how far a Mahratta from the Dekkan and a Kabyle from Mount Atlas, would be able to understand each other's language.

On the 10th of March, 1844, I again reached Cairo. This city contains a large proportion of strangers, and to European eyes the population presents great diversity of aspect. But in this respect Cairo is far from rivalling Singapore, or even the places around the Indian Ocean; and if, for a moment, I had any doubt respecting the physical race of individuals, it was only in the instance of a few of the fellahs, or cultivating Arabs.

I frequently met with COPTS, a class of the population noted for having maintained their religion throughout the Muslim conquest, and for having preserved the sacred language of ancient Egypt. In the upper country, where the Copts have monasteries and villages, and where they cultivate the soil, the complexion is dark; and, in the absence of my interpreter, I should not have distinguished them from the rest of the peasantry. The Copts of Cairo and Alexandria have the fair European complexion, accompanied, frequently, with a Greek or an Italian cast of countenance, that suggested doubts as to their exclusive Oriental descent.

Although Egypt at present may be regarded as politically independent, it is not the less governed by TURKS; and these have appropriated most of the offices of honour and profit. In appearance and manners the Turks of Egypt are not very distinguishable by strangers; but they experience the same difficulty with Europeans in rearing their children in the climate of Egypt.

The few Turks I saw in other parts of the Mediterranean, were more readily recognised from their wearing a distinctive dress. As a class, the Turks are manifestly less inclined than the Armenians to assimilate with Europeans.

Muslim SYRIANS were said to be numerous at Cairo, although I was unable to distinguish them. I do not know whether Christian Syrians are in the habit of visiting this city; but I saw one of them at Malta, a person who had acquired eminence by his learning.

Among the most interesting visitors at Cairo were a party of BEDOUINS, from Petra, near Palestine, who had accompanied some travellers, and who were making their journey subserve the additional purpose of buying corn. They were six or eight in number, and from their lineaments it was evident that they belonged to one family. The hair was

straight, and the features were those of the White race; but the depth of hue surprised me, as it fully equalled that of my Barabra servant, who chanced to be standing near. They were warmly clothed, in which respect they differed from the southern Bedouins.

I once met with three or four ARABS OF THE HEDJAZ, in the streets of Cairo, and I was struck with their peculiarly dignified deportment. Their complexion was not particularly dark, and the physical race could not be mistaken. At Suez, however, where this class of Arabs are frequent visitors, I observed signs of mixed descent; and in an instance already mentioned, a Negro was in company.

In place of a turban, all wore a mantle striped with yellow, an article of dress, perhaps, general in the Hedjaz, but which I have occasionally seen in Southern Arabia, and among Arab visitors at Bombay and Zanzibar. At the last-named place, a man wearing it was pointed out to me as a "Wahabi, who had fought against the Pasha of Egypt;" and I have elsewhere heard this mantle termed the badge of the Wahabi. At Muscat I saw it worn by Negroes, whose filed teeth designated an African birthplace.

c. *Southern Arabs.*

On the 24th of March I left Suez in the English steamboat, and on the 30th I landed at *Aden*, where I remained for three weeks, besides making two subsequent visits. Egress was here prohibited to the new comers; but the people of the country were often seen bringing upon camels articles of produce for the supply of the market. A body of these Arabs, hired by the English authorities, were at work on the road, and a few had become permanent residents. In some individuals the complexion was yet darker than I had seen it among the fellahs of the Thebaid; while in other respects the affinity with the White race was hardly distinguishable. I remarked nothing peculiar in the costume, except on one occasion, in the instance of three Arabs wearing caps, which were not padded like those of the Banians, but which equally resembled in outline the common monumental pattern of Egypt.

On the 22nd of April I left Aden in the brig Cherokee, Captain Mansfield, of Salem; and we arrived at *Mocha* on

the following day. A boat soon came off to the anchorage, bringing the interpreter, who, with three other persons employed in the intercourse with American vessels, were the only natives of the place who could speak a European language. The interpreter stated, that "Mocha had now a good governor, and that all was right;" and he proceeded to descant, with great simplicity, upon the manifold advantages of good government.

On landing, we visited the governor, who was called a Bedouin, but who resembled, in personal appearance, the other principal Arabs of the place. These seemed to be a superior set of men to the Muslims of Cairo. Many of them were tall and of large stature; and although their physical race would anywhere be recognised, I thought I could distinguish a local cast of countenance, independent of the unusual shortness and scantiness of beard. Indeed, the only long beards I saw among the native population of Mocha were those of the Jews.

The common Arabs of the town varied more than the upper classes from the usual aspect of the White race. Their average stature was decidedly inferior; the beard was yet more scanty, and instances occurred of its entire absence, in combination, too, with the deep Malay-brown complexion. Polygamy seemed hardly to exist among the mass of the population, notwithstanding the frequency of unfruitful marriages; neither did I hear of any undue facility of divorce. I remarked many other points of difference from the Egyptian Arabs: as in the costume (the head-dress usually consisting of a blue turban more or less covering the ears); in the eating of camel-meat; and especially in the universal diffusion of education.

The country immediately behind Mocha is level, and, on a general view, appears to be utterly desert. Here and there, however, I met with small patches of cultivated soil that are irrigated from wells, a discouraging task in such a burning climate. On inquiring as to the safety of travelling, I was told that "it would be better not to go far from town, for, being a stranger, if I should happen to be robbed, I should be unable to tell by whom." I asked my informant if he would be willing to make the journey by land to Aden? "Nothing would induce him to go among people with

whom he was unacquainted." I then asked whether the people of Mocha would fight for their governor? This question elicited surprise, and he rejoined,—"Why should we fight for the governor, who only taxes us?"

The poverty and primitive manners of the people rendered Mocha one of the most interesting places I have ever visited. The continual invocations brought to mind the passage, "then began men to call upon the name of the Lord." Indeed, a deep sense of the immediate guardianship of the Deity, seemed at all times to pervade the community. The religion, unlike what I have witnessed in other Muslim countries, approached that of Abraham. Do you ever address prayers to Mohammed? "Mohammed was a man; we do not pray to a man." It was well remarked by an eye-witness, that "this would be a beautiful world, were Christians as observant of the precepts of their own religion as these poor Arabs are of theirs."

The warehouse of the principal Arab merchant presented some striking analogies to the granary scenes of the Pharaonic monuments, as well in the dress of the workmen, as in the large baskets made of matting, which they carried upon one shoulder. On proposing to the superintendent a slight change in the manipulation of some article, he replied, "Must we learn something new?"

Checkered baskets, like those imported from Nubia into Egypt, and which are represented on the Pharaonic monuments, are common in Southern Arabia, and are principally manufactured at Makulla. But flag-shaped fans, such as I have seen at the Cataract of the Nile, are made in quantities at Mocha.

In addition to the slight tattooing usual with Arab women, I observed, at Mocha, ornamental markings with a black pigment; but these occurred more especially upon children. Similar markings with pigment, rather than true tattooing, have appeared to me to be represented on the Pharaonic monuments, on the bodies of certain foreigners. A cane which I obtained at Suez, having the oblique monumental handle, was recognised as being made after the pattern of Western Arabia; while the fashion of the rounded hook was referred to the cane of Muscat.

The unusual fondness for cats, manifested by the Mocha

Arabs, brought to mind Herodotus's account of the ancient Egyptians; and, in further illustration of the permanency of manners and institutions, the governor, during a portion of the day, was usually to be seen sitting at the receipt of customs. The interpreter, although in general he appeared to be well-informed, knew nothing of Yoktan, Abraham, or even of Ishmael.

An Arab was pointed out to me as the brother of a powerful chief, who, some forty years ago, plundered a Salem vessel. Of those on board, a lad (of whom I had heard at home) was alone spared; and he was subsequently educated and married in Arabia, where he remained until his recent death. Pirates were said to be still numerous about the Persian Gulf; but, since the proceedings of the English at Berbera, they had disappeared from the Red Sea. The affair of the United States frigate, Potomac, on the coast of Sumatra, was well known at Mocha, the relations with that island being rather intimate.

I saw, at Mocha, an English lad who had deserted from a trading vessel, and turned Muslim; but the gulf between him and ourselves proved to be impassable. The arrival of an Italian adventurer, on his way to India, the probable presence of a Maltese, and the circulation of German crowns (or Venetian dollars), were the only tokens of a direct communication with Europe.

The few BEDOUINS pointed out to me were hardly distinguishable from the lower class of town Arabs, except by the absence of a turban. They were all young men, having uniformly the Malay-brown complexion, and the hair curling in ringlets all over the head. A powerful tribe of Bedouins, who sometimes rob and kill people, even within a few hours of Mocha, interrupted the land-route to Aden. Couriers, however, are occasionally dispatched, and we transmitted letters by one of them.

"About eleven years prior to our visit, Mocha was seized by the Turks, (as the Egyptian forces were here called,) who left a garrison of some five hundred men." This state of things afforded a pretext to the Bedouins of the vicinity to pillage the place. "Assembling to the number of some thousands, they approached the town, regardless of the artillery, and scaled the walls with ladders. They after-

wards robbed every house, and left the inhabitants almost literally naked." Mocha, since that event, has been ruled by a Bedouin. Among other results of the affair, it was found that Egyptian money, which had been in use during the short accession of Turkish power, gave place to the former currency.

I sometimes heard references to the palmy days when "Mocha belonged to the king of Sanaa;" when her staple was more in demand, and especially when it was paid for in dollars. The recent death of the last-named potentate had added to the usual disturbances of the country, and a battle was daily anticipated, in consequence of "the revolt of some of the villages belonging to his soldiers."

On the 31st of May we sailed from Mocha; and, after stopping at Aden until the 13th of June, we continued our voyage notwithstanding the adverse monsoon, and reached *Zanzibar* on the 20th of July. I have already spoken of the Soahili inhabiting this Arab colony; but Zanzibar seems further to be the most favourable spot for meeting with persons from all parts of Arabia, and, more especially, from the Seheery, or the coast fronting on the Indian Ocean. One individual attracted my attention, on account of his long braided side-lock, and the striking similarity in his whole appearance to the Rebo of the Pharaonic monuments. I did not learn his history; but his complexion was unusually light, and the incident called to mind the existence of a class of people very little known to Europeans—the Arabian mountaineers.

Bedouins are often seen at Zanzibar—a circumstance the more unexpected, as I had ascertained that they do not visit Singapore. Besides the individual adventurers at Zanzibar, the Imaum sometimes imports bodies of Bedouins, to serve as soldiers in his military campaigns.

On the 3rd of October I left Zanzibar in the barque, Wm. Schroeder, Captain Jackson, of Salem; and, after making an unsuccessful attempt to land at Mombas, we arrived on the 18th at *Muscat*. The people of this part of Arabia, like those of the Hedjaz, have long beards, and they may be recognised by the checkered and banded turban, which I first saw at Zanzibar. Some individuals were found to be more polished and liberal-minded than any other Arabs

I have met with; and a more advanced tone of society pervaded their principal town.

I witnessed, however, at Muscat, the abduction of a child by its own father, who had taken advantage of the temporary absence of the mother. The screams of the little one, while being borne to the landing, found no response from the bystanders, further than an expression of blame, for a right being exercised "in such a manner as to break its heart."

The name of Ishmael was well known at Muscat; and two classes of Arabs were recognised "who are fighting to this day. The Kahtan Arabs ruled formerly for a century and a half; and they are many of them a fine-looking set of men, having, unlike the Abyssinians, regular hair. They are all Muslims, and are not rare in the interior, but there were none of them residing in Muscat. The Imaum's family came from the town of Adam, in Uzjd, and belonged to the other class of Arabs, the Hameer, as did, likewise, most of the people of Muscat, and many of the Bedouins. Inscriptions on the rocks are unknown in Eastern Arabia."

At Muscat I saw an Egyptian of the lower class, who had arrived, doubtless, by the way of the Persian Gulf. I was also surprised by a reminiscence of Egyptian history. A wealthy Arab, in speaking of some law decisions, declared that the judges were "as bad as Pharaoon who took Mussera."

The BEDOUINS visiting Muscat differed in personal appearance from those seen at Mocha; and they were more readily recognised as belonging to the White race. Their complexion, however, in most instances seemed to be yet darker than in the Mongolian race. Their long hair was much undulated; and they usually wore a fillet around the head, such as is seen on the Pharaonic monuments in representations of captive monarchs. One of the Bedouins, who bore no outward marks of distinction, was pointed out to me as being chief "over a thousand men; all to get angry whenever he is angry, and at no expense."

I was informed that no one came to Muscat from a greater distance inland than two or three hundred miles, and that the great interior of Arabia is unknown even to the Bedouins, who, however, suppose it to be inhabited. Persons

sometimes go by land to Mecca, keeping near the Persian Gulf; but this is not often done, the route being considered dangerous from the scarcity of water; and the usual course is by sea to Bahrein, and thence through the Interior.

The communication along the outer coast of Arabia is carried on altogether by sea. Captain M'Farland, of Salem, joined us at Muscat, after a voyage in an Arab dow, of forty days from Mocha, during the favourable monsoon. As the vessel touched at several places along the coast, he had unusual opportunities of viewing the country, which, he informed me, "looked everywhere alike;" broken, mountainous, and devoid of vegetation, as at Aden and Muscat.

At Zanzibar and at Muscat also, two or three persons from *Socotra* were pointed out to me, otherwise I should not have distinguished them from the surrounding Arabs. Captain Jackson regarded the inhabitants of the interior of Socotra as being "much the same sort of people with the Bedouins of Muscat; their Sultan in like manner wearing a fillet around his head. Their hair is long and straight, and not in the least inclining to be woolly."

On the 29th of October we sailed for *Bombay*, where we arrived on the 11th of November, and where I found, in the SINDIANS of the Lower Indus, a striking resemblance to the Bedouins of Muscat. Indeed, the spot occupied by a body of these Sindians, who had brought horses for sale, was usually termed "the Bedouin camp."

I frequently met with Arab visitors in the streets of Bombay; and, judging from the costume, they were mostly from Eastern Arabia. And in instances where the original dress had been abandoned, the language often revealed the presence of Arabs of the lower class. In the territory of the Nizam, and more than two hundred miles from Bombay, I found the gate of one of the towns guarded by an Arab soldier.

d. *Indian Muslims.*

I have spoken in another chapter of the Indian Muslims who were seen at Singapore, and who came chiefly from Eastern Hindostan. Those met with on my second Voyage belong to the North and West; and, for the most part, unequivocally to the White race.

As the pilgrim vessels usually touch at *Mocha*, numbers of Indian Muslims are to be met with in that city; where I soon learned to distinguish them by the straightness of the beard; a point in which they differ from Europeans, and which is expressed in certain Greek and Roman representations of Orientals. Some of these Indian Muslims dealt in precious stones, while others had become residents, and had opened shops. A Bombay ship at the anchorage, was laden principally with Surat cloth; and had on board about forty merchants, each of them, as in the Chinese junks, having the charge of his own wares.

The larger edifices at Mocha are built in much the same style as those of Cairo, except that there is greater refinement of architectural ornament. This was traced to the workmen of India: and I soon perceived, that the Arabs here, as everywhere, are a rude people; and that all the arts requiring skill and ingenuity, belong properly to Hindostan. On proposing to have an umbrella covered, I was told that this "could not be done; because the people of Mocha are not India people."

I met with a class of individuals called PERSIANS, who are noted as the fairest Orientals that come to Mocha; and who appear to me to have close affinity with the Indian Muslims. One of them accosted me in English, and among other matters, stated that "he was from Iraun, and that the English and his countrymen were friends:" although a person of much intelligence, he had never before heard of America, and he was evidently at a loss to comprehend where it could be situated. I met with another of these Persians, immediately after he had performed a surgical operation; and, to my surprise, he described the "couching of the cataract;" but I did not undo the bandages to verify his account.

At *Bombay*, and throughout my journey in the interior of India, I found myself always at a distance from the seat of arts above alluded to; and my inquiries now placed it to the northward, and in the direction of the Indus. Other attendant circumstances, taken in connexion with the geographical position of the Upper Indus, seem to point yet further east.

Bombay appears to be the head-quarters of the Indian

Muslims, and I remarked among them various evidence of Persian descent, as in the custom of child marriages. Polygamy is rare, even among the wealthy; but their religion has been much corrupted; "they have saints, and they address prayers to Mohammed, and even to Ali." I was informed, however, that four castes of Muslims are recognised at Bombay, who all eat together, but who will not intermarry.

It has been sometimes asserted that the boatmen of the western coast of Hindostan are all Muslims. Exceptions, however, must be made in regard to Cutch; and a Rajpoot sailor was serving in the Bombay ship at Mocha under a Muslim commander.

Indian Muslims are likewise common at *Zanzibar*, and it was said of them, that "after getting married and mixed up a little, they wanted to pass for Arabs." Most of the White women I saw at Zanzibar, belonged to the class of Indian Muslims.

Two or three BELOOCHES were pointed out to me at Zanzibar, and others again at Bombay. They seemed to have affinity with the Indian Muslims, rather than with the Sindians and Bedouins; but I am hardly prepared to decide from these few examples. Belooche women have been sometimes imported for the harems of Zanzibar.

e. *Western Hindoos.*

In the various ports of Arabia and Eastern Africa, individuals may occasionally be met with, who differ remarkably in their bearing and costume from the surrounding population. An equal difference will be found in the qualities of the mind, in a surprising amount of intelligence and general information. These people have influence, not, however, derived from battles; their empire is not of the sword; neither is it based on their religion. They are the idolatrous merchants of India, who, for ages, have mainly held the commerce of the above-named countries.

My acquaintance with the CUTCH BANIANS, commenced at Aden: and at first I mistook them for Parsees, whom they resemble in many striking particulars; as in their names, in their general style of dress, and in their shaving the beard with the exception of the mustache (a circum-

stance possibly connected with the prevalence of the same fashion at Cairo), but on further acquaintance, I was soon able to distinguish a peculiar style of countenance.

The Banians visiting Mocha and the neighbouring parts of Arabia, belong to a different caste from those usually seen at Zanzibar, Muscat, and Bombay. They may be distinguished by the more flattened turban; the shape of which, as is shown by Niebuhr's figure, has not changed for the last eighty years.

At Zanzibar I was more particularly struck with the analogy to the ancient Egyptian priests; for in like manner the Banians seemed to be the depositaries of knowledge and of the relics of civilisation in the midst of barbarians. Herodotus says, that "the Egyptians venerate the cow;" and this is a fundamental principle of the Hindoo religion. Also, in minor particulars, the undress Banian cap entirely resembles the pattern most frequently represented on the Egyptian monuments.

One of the principal Banians at Zanzibar spoke English, and he repeatedly complained to me of the "hard life required in being a Banian. There are eighty-four castes of Banians;" but, said he, "God made all men free. The Banians who go to sea do not associate with those who remain in India; and the same rule prevails among the Lascars, who are Sudras, and are allowed to eat fish. His own diet consisted of rice, dohl (Cajanus), some ghee or butter, and sometimes milk, but he did not eat oranges." It appeared that he was versed in palmistry, and he once asked me if I understood phrenology. He bestowed abusive expressions on the Arabs, for not permitting the building of a temple; adding, that there were "more than four hundred Banians in Zanzibar, being a threefold increase within ten years, and that he supposed it will go hard with them when the present Imaum dies." He called a Calcutta dobi (or washerman), not a Banian, but a Hindoo: the individual alluded to was serving in a European household, and according to his own account was permitted to eat mutton, but neither beef nor fowls.

A second Banian, who had recently arrived from Mombas, "had resided in Eastern Africa for twenty years." I did not learn that any Banians were established to the south-

ward of Keelwa, but I saw individuals on board the dows arriving from that town. Moreover, if reliance may be placed on the Arab accounts, the Banians are not entirely free from the suspicion of slave dealing.

Banians are very numerous at Muscat, where they possess a more pervading influence than at the places I had previously visited. They belong to the same class with those of Zanzibar, but they are not exclusively merchants, and I observed among them a blacksmith and other artisans. One of their singular-looking dows, having serrated streamers with a pair of flags at the stern, had just arrived from Cutch. An Arab merchant informed me, that having displeased the Banians by sending cattle on board an American ship of war, he was obliged at last to declare that "he would find out whether Muscat belonged to the Banians or to the Arabs; for having a right to expend his money as he pleased, he would buy cattle, and slaughter daily for distribution among the poor."

The Banians of Bombay, judging from the form of the turban, are mostly to be referred to the last-mentioned class; except only, that they had not in all instances arrived by sea. They were spoken of as "Cutch and Guzerati people, not properly belonging to this part of India, who, by their superior enterprise, have nearly or quite supplanted the original Mahratta caste of traders." Like their brethren of Cashmere and Bengal, they are regarded in the binary division of the Hindoos, as belonging to the "left hand" and inferior.

The mass of the population of Bombay is composed of Hindoos who, by way of territorial distinction, are usually termed MAHRATTAS. From my first view of them I could only regard them as Arabs; as the unconverted idolatrous Arabs, such as we are familiar with in the history of the Mediterranean countries; and I soon perceived that it was possible, at the present day, to obtain an insight into the influence on the mind of the ancient system of image-worship.

I perceived also that in various points of difference from the modern Arabs, the Mahrattas accord with the ancient Egyptians. Thus polygamy is rare; the women do not conceal the face; the men carry burdens (with the balance-

beam) on the shoulders; and the drinking-cups and water-jars are universally made either of copper or brass. Other customs witnessed have not yet become obsolete in Egypt; as that of the women carrying burdens on the head, and their collecting manure (for fuel) with the hands. It is true, the analogy in surrounding circumstances (periodical rains compensating in reservoirs for the inundations of the Nile,) tends doubtless to assimilate the population; yet with every allowance, the Mahrattas appeared to me to be more than a counterpart to the Egyptians of Herodotus. The fact too should be noted, that the Sanscrit language, which has been inherited by the Mahrattas, is regarded by writers as originally foreign to India.

In the vicinity of Bombay, stones, trees, and other natural objects, are often consecrated with a mark of red paint: the original intent of the practice being apparently to remind the passer-by of the omnipresence of the Deity. I heard a Mahratta of the lower class complaining of the Parsees and saying, as he pointed to the sea, "the Parsees worship the water, that is not God; neither is fire, nor the earth."

Within my own experience I have met with no evidence of the idea of a Supreme Being having spontaneously arisen in the human mind. I would enumerate, as possessing this idea, the Patriarchs, the ancient Egyptian priests, the Jews, Christians, and Muslims, and the Braminical Hindoos. I have never conversed on the subject with followers of the Budhist religion; but the remaining portions of the human family are probably to be excluded; although not in all instances unenlightened, as appears from the writers of antiquity.

On questioning the above-mentioned individual in regard to his own religion, he said, that the Mahrattas "have priest-gods, or Bramins; that he was himself a Mahratta of the Hindoo caste, though he did not go to the temples; and that he was allowed to eat vegetables, milk, butter, and eggs; but not pork, beef, mutton, nor even fish." His complexion was darker than usual, and in personal appearance he seemed to partake of the Telingan race.

On the other hand, the complexion of the Bramins of this part of India is in general lighter than the average, and coincides with the hue of the Cutch Banians, in like manner

hardly ever becoming florid. The physical race, too, in most instances, is obviously pure.

A Mahratta Bramin stated, in reply to some inquiries, "that it is not considered proper for a Bramin to take up occupations belonging to other castes; and that even the work in which he was then engaged (correcting a Mahratta Dictionary for the English Government) was rather derogatory to his dignity." With respect to the practicability of entering lower castes, if he could entertain such an idea, he thought that "the Sudras would probably receive him, and give him a wife; but this was by no means a matter of certainty; and the Mahrs, who are the lowest of all castes, would refuse."

"Formerly there was a severe punishment for the unauthorised wearing of the Braminical cord; but the English government having declined to interfere in the matter, it is not at present always easy to distinguish a Bramin. For himself, he thought he could not be deceived, but Bramins had been, frequently. This, he exclaimed, is the Age of Iron."

"Two or more princes in India claim to be Kshatryas, together with some bodies of people, in one or more districts, who keep themselves aloof from other castes, and are respected by the Sudras; but he thought that they have rather a sort of substitute for the Kshatrya caste." He expressed the same opinion respecting the Wyse, or mercantile caste; and said, that "a great mixture of Sudras exists among the persons who now exercise the profession." He further declared, somewhat unexpectedly, that "the Sudras themselves are nearly extinct."

Mr. Allen, of the American Mission, had found "great variation in habits among the population of different parts of India; much confusion in the accounts of writers having arisen from attributing to the whole people that which is true in a district only. Bramins may compose, perhaps, one-tenth of the population of India. In some districts they are rare, and are confined to a few large temples, and have very little influence throughout the mass of the population. Many, too, of the Bramins are quite ignorant, and have not even learned to read. The Mahrattas are the only Hindoos over whom the Bramins have obtained political

ascendancy. Animal sacrifices are still practised in India; and Bramins are permitted to partake of such meats. Bramin widows shave the head, and are not allowed to marry again; but second marriages are by no means rare with other Hindoo women. In Bombay there are no less than five or six castes of Bramins, who will neither intermarry nor eat together."

"The original distinctions of caste have not been altogether effaced among the natives converted by the Portuguese; and in some places, towards the Eastern coast, the observance is quite strict."

"Hereditary village-authorities form a peculiarity in the institutions of India; and the practice has grown into the associations, feelings, and ideas of the people. When complaints of oppression have been substantiated, government has merely transferred the office to another member of the same family; and this system has continued throughout all the revolutions of the country."

"In former times the nations of India were principally four, corresponding with the four languages,—the Mahratta, Telugu, Canara, and Tamul. The Mahrattas have retained the Sanscrit alphabet, but they possess very little literature of their own; and the Tamul language is the only one of the four that is rich in literary treasures."

On the 16th of December I started on an excursion into the Interior, proceeding in the first place by water to Panwell. On the following day I traversed the Concan, or the low country; and in the evening I reached the foot of the mountains.

On the 18th I ascended the ghaut or mountain-slope, and entered upon the extensive table-land which occupies the interior of Southern India; and which is commonly called the Dekkan. Its average elevation of about two thousand feet, is insufficient to produce any striking change in the vegetable growth; but I soon perceived some difference in the climate. The nights were now colder, and the days, perhaps, hotter; while the greater aridity was shown by the absence of dews after leaving the low country.

The surface, generally, was found to be unwooded, and the far greater proportion of it uncultivated; neither were cattle seen upon the hills; but, at this season, the whole

country was covered with dried herbage, and wore the aspect of barrenness. I did not remark any particular change in the habits of the people; except that the cultivation of rice had become rare; but I am informed that the inhabitants of the Dekkan and Concan do not much intermarry.

An incident may serve to illustrate the train of associations in the mind of the people of India. Meeting on the road with a woman who seemed to belong to the lower class of Hindoos, I inquired her caste of my interpreter. He informed me that she was a Christian; not Portuguese, but Mahrass. What, I asked, is she carrying under that covering? He replied, "It contains a god."

Stopping at Karli, I spent the remainder of the day at the largest of the caves in that vicinity; and on the following morning I resumed my journey.

On the 20th I reached Poona, where I remained some hours. Muslims were said to be "common in this city; but to have no temples beyond the towns of the coast;" a rule, which has exceptions further in the Interior, in the dominions of the Nizam. Poona seemed to be in a good measure the limit of Parsee influence; and thus far, wealthy Parsees have established houses along the road for the gratuitous shelter of travellers.

Cowries were seen used for money at Poona, the species being Cyprea annulus. Hitherto I had met with but a single *camel*, which was laden with the baggage of a Bramin; and camels were seen in rare instances, further in the Interior. *Pigs* made their appearance in the villages beyond Poona; a small variety, uniformly black and long-bristled. I do not remember meeting with *buffaloes* in the Dekkan; but in many of those seen at Bombay, I remarked a white spot on the front; showing, even in this animal, a tendency to become parti-coloured.

The *sheep* appeared to belong to the same breed with those of modern Egypt; and I remarked that, in like manner, the majority of them were black. The outer garment, worn in the cool of the morning by the people of the Dekkan, has broad black stripes, formed, as in a dress common in Egypt, by combining the natural colours of the wool. And a similar manufacture is found, I think, among the Spanish Peruvians.

Although the Indian *bullock* is regarded as identical in species with our own, there is a striking difference in the voice. I never heard any lowing from the cattle of India, but only a sort of grunt, somewhat like that of the buffalo. However, I have occasionally seen Indian bullocks, having long horns, and also a form of body approaching that of our own varieties.

On the 22nd I arrived at Gorputi (called by the English Seroor); a considerable village, where Mr. French, of the American Mission, was residing. Some thin plates of metal were shown me, as examples of "Hindoo household gods." Also the tomb of a British officer, before which the natives had erected an altar for burning incense; the new Hindoo saint having been esteemed peculiarly efficacious for the fulfilment of vows, until such proceedings were stopped, by being brought to the notice of the local authorities.

The river Bima runs by Gorputi; but, like the other rivers of the Dekkan, it contained at this season very little water. The country beyond was found to be more level, with a larger proportion of the soil under cultivation. The crops, however, were suffering from drought, the rains during the preceding wet season having been scanty; and there was every prospect of a famine.

In the evening of the 23rd I reached the city of Ahmednuggur, the most distant of the Mission Stations. Messrs. Ballantine and Abbott had resided here for ten years, without having before seen one of their countrymen who was unconnected with the mission.

I resumed my journey on the 25th; and on the morning of the 27th I reached Toka, on the banks of the Godaveri. Crossing the mouth of a tributary stream, I visited the principal village, which is inhabited exclusively by Bramins, many of whom were not distinguishable in personal appearance from the other people of the country. Two large flat-bottomed boats, each bearing a carved horse's head, indicated that the river at a different season is navigable.

Crossing the Godaveri, I entered the Nizam's dominions; but Muslim rule did not appear to have wrought any marked change in the character and habits of the population. Among various agricultural details reminding me of ancient customs, I observed strings of bullocks treading out the grain.

On the 28th I arrived at the city of Aurungabad, the residence of the Nizam, whose government is still recognised, although it is much under English influence. A few Parsees were living here, farming the revenue, as the Banians do at Zanzibar; and one of them cashed a draft for me. A Parsee priest, who was called, by my interpreter, "the archbishop," stopped here, after travelling in company with us from Poona.

The vicinity of Aurungabad is noted for producing Mandarin *oranges* of a superior quality. An English officer was riding the only *elephant* I met with in India, where, it appears, "elephants are principally confined to two separate districts, to a tract on the Ganges, to the northward, and to the extreme south of the Peninsula."

A man joined our party at Aurungabad, who had overtaken us on the road some days previously, at which time he inquired our destination. It appeared that he belonged to the JAIR caste, and to the Rajpoot country to the northward; and being of a more enterprising turn than the local population, he furnished the means of conveyance for the remainder of my journey.

On the 31st I reached Adjunta, a place apparently designed by the early Muslims for an important city; but the space enclosed by the massive walls is now principally vacant. I observed here small burnt bricks, of the same description with those of Southern Arabia; and also, somewhat unexpectedly, the Muslim custom of carrying water in skins.

I descended the ghaut which borders the basin of the river Tapti, and proceeded to Purdapur, a fine Muslim caravansary, converted into a petty modern village, the walls affording protection at night to the inhabitants and their cattle. Fires were seen in the distance, down the valley, kindled, it was said, likewise for the purpose of "keeping off the tigers."

I first heard of this animal at Adjunta; and it proved to be, not the true tiger, but the *ounce*, or pale-coloured leopard. A skin was shown me by a person, who stated, that "he had shot twenty-six of these animals in the course of his life; and that they destroy not only cattle, but in some instances even men. He and his companion were Muslim

and Mawotti, from the Northward; and one of them came from Lucknow."

On the 1st of January, 1845, I visited the Caves, which are situated several miles from Purdapur, the nearest inhabited place. A stream comes out of the mountain-slope through a deep glen, walled by cliffs six or seven hundred feet in height; and half-way up, a horizontal series of caves extends around a semicircular sweep. The river-bed being dry at the time of my visit, afforded access to the secluded spot; and the first care on arriving was to discharge fire-arms "to start the tigers." The only response, however, was an alarm among multitudes of the domestic *pigeon*. Man had withdrawn for ages, but his dwelling-place was not abandoned by his associate bird. I spent several hours in examining the caves, and my guides being unwilling to pass the night there, I left before dark, and taking the direct route, I reached Adjunta late in the evening.

On the 2nd I commenced my return; for the first few miles in company with a Braminical wedding-procession; the antique pattern of the cars calling to mind the heroic ages. Through some mismanagement one of the cars was overturned, and several women and children were severely bruised; soon, however, one of the party came along bearing a flagon, and poured oil upon the wounds.

By an exception to the usual cloudless sky of half the year, the heavens were obscured on the 3rd and 4th, and a corresponding change took place in the otherwise constant direction of the wind. But the general use of adobes or sun-dried brick, affords proof that the rains in the Dekkan are never very copious.

In geological structure, the Dekkan, to the limit of my excursion, was found to be a trap-formation; and in this respect it corresponds with the table-land of Oregon. I left the main road at Phoolmarry, and on the evening of the 4th I reached Ellora, where I spent the following day in examining the Caves.

On the 6th I proceeded through a Muslim village, noted for the manufacture of paper. I next passed the base of the artificially insulated mountain of Dowlutabad; a stupendous work of the ancient Hindoos, requiring even at the present day the jealous care of government. The vicinity of

Ellora appears also to have been the principal seat of Muslim power; and it abounds in Muslim temples, which are now for the most part abandoned. In the evening I rejoined my former route, and on the following day I recrossed the Godaveri.

Hitherto, the numerous Hindoo temples and worship-places visited along the road had been found to be all dedicated to Siva. And I remarked that the offerings, like that of Cain, were confined to the products of the soil; to Tagetes and other cultivated flowers, with occasionally fruits.

Before, however, re-entering Ahmednuggur, a small temple attracted my attention, from some peculiarities in its construction, and from a second species of sacred fig (with the fruit devoid of an involucre) being planted around. The temple contained a simple flat-topped altar, on which Tagetes flowers were strewed, and it proved to be dedicated to the worship of Krishna.

Some votaries of this Hindoo deity were encamped near, and they were called by my Parsee interpreter, "fakeer or beggars, but high-caste." The party consisted of men and women, several of the former wearing black turbans, and it appeared that they belonged to the MANABHAWA caste. Among other peculiarities, this caste is remarkable for being kept up by purchase, for marriage is prohibited, and the children are all regularly killed.

The grain being now nearly ripe, persons were sometimes stationed in the fields to drive away the birds by slinging stones. On the 11th I again arrived at Gorputi.

The following day, the 12th of January, "was regarded by the Hindoos as the winter solstice; in consequence of following the Shastras in their calculations, without regard to the precession of the equinoxes."

On the 16th I visited the lesser caves at Karli; but I was not aware at the time that a "hill-fort," another work of antiquity, exists in the same vicinity. On the morning of the 18th I again reached Bombay.

f. *Irregular Castes of India.*

In India the term "caste" is not restricted to the followers of the Braminical religion, but it is used in a general sense; and Parsees, Muslims, Jews, and Europeans are com-

monly spoken of as so many castes. The population is heterogeneous, made up of the remnants or wrecks of a variety of nations, some of which are perhaps extinct at their place of origin; for it would seem that amid "the violence with which the earth has been filled," toleration has existed only in India.

The MAHARS are commonly supposed to be the original inhabitants of the Dekkan. Three or four of them were pointed out to me at Ahmednuggur; but in costume and personal appearance they did not present any marked difference from the surrounding population. They may have been a little darker; and one individual, who accompanied me to Adjunta and back, seemed to be as dark as a Telingan.

I met with a party of BHILLS on the road, near the limit of my excursion. They presented very distinctly the lineaments of the White race, but I did not remark anything peculiar in their dress or personal appearance.

One of the converts at Ahmednuggur "had formerly been in the service of a Bhill, during which time he had killed many persons." He showed me a bow, having two strings and a cross-band, for the purpose of shooting pebbles—a kind of weapon said to be common in the vicinity. Heber* found, among the Bhills, bows made of split bamboo; a peculiarity in construction which may be compared with Herodotus's account of the Indian bows.

The "BRINJARRY" were principally met with on first entering the Dekkan; their immense herds of bullocks sometimes occupying the road for nearly a mile. At regular intervals, a woman in the midst was spinning or sewing as she walked along, and one was carrying a dog; an act which, according to my interpreter, "neither Hindoos nor Parsees would do." The dress more resembled the European female costume than the Hindoo; but the Brinjarry women had large anklets of fantastic pattern, with other brass ornaments. The men carried spears, having the broad blades covered with leathern sheaths. In parties returning towards the Interior, the bullocks were all heavily laden with merchandise.

Except in the masculine forms of the women, I could find no physical difference from the general population of the

* Heber's Narrative, vol. ii. p. 466.

country. The lineaments of the White race were readily distinguishable, except in an individual already noticed as resembling an Australian. The herds were spoken of as the property of the women, who, indeed, had the air of being the heads of the community; but whether the system of polyandry prevails, as among certain classes in the south of India, I did not ascertain.

The "DUNGUR" were encamped near every village of importance, in small huts formed of rush-mats. I have seen these huts not only hemispherical in shape, but disposed in a circle, with their entrances towards the centre; thus presenting an unexpected resemblance to the "kraals" of Africa. The Dungur have drays of a very rude and primitive construction, formed of three cross timbers resting on an axle, the wheels being merely sections of the trunk of a tree.

The SIKLIGUR have similar wandering habits, but they hold themselves aloof; they are less numerous, and are said to exercise the profession of "chatty-makers," or tin-men. I fell in with one of their encampments, which consisted of low woollen tents. This, I think, is the class of people to which the origin of the Gipsies has been sometimes referred.

Some of the numerous irregular castes of India are supposed to be the remains of the aboriginal population. I did not meet with any direct evidence of this; but I am inclined to think there may be something in the point of view. Some parallelism in social condition seems wanting in the White race; and the required connexion may possibly be traced in the hill-people of Nepaul, the Karens of Birmah, and even tribes situated further to the southeast.

g. *Return to Egypt.*

On the 1st of February I left Bombay in the steamboat Victoria; and, after a third visit to Aden, I arrived on the 17th at Suez. Coming from India, I was struck with the ruddy sun-burnt hue of the EGYPTIANS, who now seemed fairer than before; and I thought I could further distinguish instances of that width of nostril which contributes to the un-European expression of the Bramins and Cutch Banians. Within a single year, marked innovations on Arab customs had taken place at Cairo and Alexandria, in consequence of increased intercourse by steamboats with Europe.

EUROPE.

On the 21st of February I left Alexandria in the English steamboat Iberia; and on the 26th I again arrived at *Malta*, where I passed quarantine.

On the 14th of March I left Malta in the Neapolitan steamboat; and I thus had the opportunity of landing in *Sicily*, at Syracuse, Catania, and Messina. I remarked among the Sicilians some traditionary remembrance of wearing the Arab costume.

We stopped at two or three places on the Calabrian coast; and on the 18th we reached *Naples*, where the boat remained eight days. A "Calabrian" peasant, clad in a sheepskin jacket, was seen performing on the bagpipe, an instrument somewhat Oriental in the character of its intonations, and which, I believe, is now nearly confined to the extreme mountain-fastnesses of Italy and Scotland.

The superstition of the "evil eye" is common in Italy; and I remarked traces of other Arab customs, which generally, in Europe, have become obsolete; and further, at Herculaneum and Pompeii, that the Arab analogies increase on ascending into antiquity.

The environs of Naples offer a striking example of a succession of languages within a given district, as is shown by the Latin inscriptions of the Roman towns, and by the anterior Greek inscriptions of the Catacombs: where moreover, at this distance in time and space, I did not anticipate meeting with evidence of the Hindoo worship of Siva. The severe penalty for killing a cow, according to Pliny once in vogue at Rome, is another fact in point.

On recurring to Hawaiian volcanic action, it appeared to me that a subterraneous lava-stream coming in contact with water, would account for the catastrophe of Pompeii.

After leaving Naples, the boat touched at Civita Vecchia, Leghorn, and Genoa. Italy offers another subject of interest, in its rich monumental history continuing uninterrupted through the Middle Ages.

The boat finally stopped at Marseilles; and after a ride through *France*, I sailed from Havre on the 12th of April, in the ship Iowa; and on the 16th of the following month we arrived at New York.

CHAPTER XIV.

ASSOCIATION.—NUMERICAL PROPORTIONS.

In order to complete the foregoing account, I will here insert a specification of the several races occurring at each place visited; or, in other words, an analysis of the population.

In the *United States*, three races are familiarly known: the White, the Negro, and the Mongolian; the latter represented both by the aboriginal population, and by a few Chinese settled in our principal cities. A fourth race, the Malayan (represented chiefly by Polynesians), is not uncommon in the ports frequented by whale-ships; and in some few instances I have met with a fifth race, the Telingan, or true Indian.

At *Madeira* I met with two races: the White and the Negro; but the latter race occurred in only a few instances, and exclusively at the principal seaport town.

At the *Cape Verd Islands* I met with the same two races; but they occurred in inverse proportions; and the White race was here comparatively rare.

At *Rio Janeiro* and the vicinity I fell in with only the same two races,—the White and the Negro; and they appeared to be here in nearly equal proportions.

The same two races were again seen at the mouth of the Rio Negro, in *North Patagonia;* but a third race, the Mongolian or the aboriginal, was said to be present among the population of the neighbouring village.

In *Terra del Fuego* there occurred but a single race,—the Mongolian, or the aboriginal. I have never heard of runaway sailors resorting to the southern side of the Straits of Magellan.

In *Northern Chili*, at Valparaiso and Santiago, I met with the three races last mentioned: the White, the Mongolian or the aboriginal, and the Negro; but the latter race was decidedly rare.

In *Peru*, at Lima and in the vicinity, I met with the same three races; here, however, interspersed in more equal proportions; and a variety of complicated mixtures had sprung up, which were distinguished by different names. On the Andes the aboriginal race was found to preponderate, and the Negro was rare.

At San Francisco, in *North California*, I met with three races; the Malayan, which is the aboriginal, and is also represented by the Polynesian crews of trading vessels; the White race; and, in a single instance, the Negro.

Three races also occurred in *Oregon;* the Mongolian, here the aboriginal, and far predominating at the time of our visit; the White race, consisting principally of the missionaries, and of persons connected with the Hudson Bay Company; and the Malayan, represented by a few Polynesians. A Negro, I believe, effected his escape from one of the vessels of the Expedition; and, in this manner, a fourth race was added to the foregoing.

Leaving now the shores of America, at the *Hawaiian Islands*, I met with five races; the Malayan, here the aboriginal; the White; the Negro; the Mongolian, represented by several imported Chinese; and the fifth race, by an individual from Hindostan.

A single race occurred among the eastern *Paumotus;* the Malayan, or the aboriginal. In the western part of the same coral archipelago we received on board a shipwrecked European.

At *Taheiti*, notwithstanding it is so much frequented by trading-vessels, I observed but two races; the Malayan or the aboriginal, and the White race.

The same two races occurred at the *Samoan* or Navigator Islands, where the resident Whites consisted of the missionaries and of numerous deserters from trading vessels.

The island of *Tongataboo* was the first place visited, where two races had been brought in contact without European intervention; these were, the Malayan or the aboriginal, and the Papuan from the Feejee Islands. Three additional races had arrived in trading vessels; the White; the Negro, represented by a single resident; and the Negrillo, by a lad from Aramanga.

At the *Feejee Islands* the Papuan and the Malayan races

had again aboriginally met together: but Polynesians had likewise been introduced by trading vessels; as had the resident Whites, and a native of Hindostan; making in all four races.

At the Bay of Islands, in *New Zealand*, I met with but two races,—the Malayan or the aboriginal, and the White; the latter already settled in considerable numbers, before obtaining a cession of the sovereignty of the group.

At *Sydney*, and in the vicinity, I met with five races; the Australian or the aboriginal; the White, far preponderating; the Negro, in a few instances; the Malayan, represented by Polynesians, chiefly from New Zealand; and the Telingan, by some natives of Hindostan.

In *Luzon* there occurred five races, two of them aboriginal, the Malayan and the Negrillo. The Mongolian race was represented by numerous Chinese residents; the Telingan, by a few Lascars from the shipping; and the White race by Europeans, and persons of European descent.

At Caldera, on *Mindanao*, I met with but two races, the Malayan and the White; the latter represented by the commander of the post, and possibly, also, by some traces among the Muslim population.

At *Sooloo* I met with four races; the Malayan; the Negrillo, in an individual perhaps aboriginal; the Mongolian, represented by a single resident Chinese; and the Telingan, by two captive Lascars. There was, besides, evidence of some mixture of a fifth race, in the persons of the chiefs and the Muslim priest.

At *Singapore*, individuals belonging to no less than eight physical races, were found to be congregated together. The White race was represented by Europeans, and by numerous Orientals; the Mongolian, by Chinese; the Malayan, by the native population of the East Indies; the Telingan, by adventurers from Hindostan; the Negrillo, by slaves from New Guinea; the Negro, too, was present in a few instances, as was likewise the true Abyssinian, and, in all probability, the Ethiopian, in some of the mixed Arabs. Indeed, as we had brought with us the Papuan, in the person of Veindovi, the Australian and the Hottentot were the only races remaining unrepresented at Singapore.

The existence of such a spot on the globe is a fact deserving attention, especially when it is considered that this gathering is chiefly independent of European shipping, and of the modern town of Singapore; the same causes, and the same modes of conveyance, having for many centuries directed emigration from various quarters to the Straits of Malacca.

At the *Cape of Good Hope* the Hottentot race is the aboriginal; but I did not meet with individuals who were unmixed. The four additional races introduced through European intercourse have also become much intermixed. At Cape Town the Negro appeared rather to preponderate in numbers over the White race, while the Malayan and the Telingan were comparatively rare.

At *St. Helena*, in a population of only a few hundreds, introduced in European shipping, I observed no less than four races: the White; the Negro; the Mongolian, represented by a Chinese; and, to all appearance, the Telingan was present, in the descendants of individuals derived from Madagascar.

At *Zanzibar*, on the east coast of Africa, I met with six races: the Negro, here preponderating; the White, derived either directly or originally from Arabia, Persia, and Western Hindostan; the Malayan, represented by three or four Ambolambo from Madagascar; the Mongolian, by one resident Chinese; the true Abyssinian, observed in a single instance; and the Ethiopian, which, during the monsoon then prevailing, was somewhat rare.

At *Bombay* I observed five races: the White; the Telingan, rare in a state of purity; the Negro, chiefly among the crews of Arab vessels arriving from Zanzibar; the Mongolian, represented by a few Chinese residents; and the Ethiopian, which, in a single instance, was seen unmixed.

At *Muscat* I met with four races: the White, represented exclusively by Orientals; the Telingan, apparently present in two individuals from the shores of the Persian Gulf; the Negro, chiefly derived through Zanzibar; and the Ethiopian, seen in individuals of mixed race, and in a single Somali.

The same four races occurred at *Aden*. The Ethiopian, however, was here represented by numerous Somali visitors; and the Telingan, by individuals among the Sepoy regiments.

At *Mocha* I fell in with five races: the White; the Mongolian, represented in a half-breed Chinese; the Abyssinian, seen in several instances; the Ethiopian, which is here numerous; as is, likewise, the Negro race.

In *Egypt* I met with but three races—the same known there from remote antiquity: the Ethiopian, the Negro, and the White. I learned, however, that individuals belonging to a fourth race, the true Abyssinian, are sometimes seen at Cairo.

I observed two races at *Malta:* the White race; and, in the instance of two lads, who were probably derived from the neighbouring Muslim countries, the Negro.

On the continent of *Europe* I met with the same two races; but with the Negro only at Marseilles, and in the instance of two or three resident individuals.

All innovations resulting from the development of European navigation, have been excluded from the accompanying map, which (the Arab countries being partially excepted), is intended to represent the aboriginal diffusion of the races. Of isolated districts, Africa appears to contain the greatest number of aboriginal races; and, next in order, will probably follow either Madagascar or New Guinea.

Density of population being independent of territorial extent, the races, when compared by the number of individuals, rank differently from the appearance of things on the map. The usual estimates of the population of the globe vary from eight hundred to a thousand millions; and, taking the mean, the human family would seem to be distributed among the races in something like the following proportions:—

The White	350,000,000	The Abyssinian	3,000,000
The Mongolian	300,000,000	The Papuan	3,000,000
The Malayan	120,000,000	The Negrillo	3,000,000
The Telingan	60,000,000	The Australian	500,000
The Negro	55,000,000	The Hottentot	500,000
The Ethiopian	5,000,000		

CHAPTER XV.

RELATIONS BETWEEN THE RACES.

ALTHOUGH languages indicate national affiliation, their actual distribution is, to a certain extent, independent of physical race. Confusion has sometimes arisen from not giving due attention to this circumstance; and, indeed, the extension or the imparting of languages is a subject which has received very little attention.

Writers sometimes reason as if nations went about in masses, the strong overcoming the weak, and imposing at once their customs, religion, and languages on the vanquished. But a careful examination of the present being regarded as the best guide to the history of the past, the following examples, selected from among others which I have noted, may be found deserving of attention:—

In the mining towns of the *Peruvian Andes*, the Spanish language is not commonly spoken; but Spaniards and other foreigners learn the Quichua, or the native Peruvian.

In *Luzon*, though a "conquered country" for more than two centuries, the Tagala is still the general language, and the Spanish makes no progress in the interior towns and districts.

At *Singapore*, where the native population is lost amid the influx of foreigners, the current language is, nevertheless, the proper Malay.

Were foreign intercourse cut off from the *Hawaiian Islands*, I think I shall be supported in the opinion that, notwithstanding the large number of resident Whites, the English language would soon become obsolete.

The English language makes no progress in *Hindostan*, neither do the Roman letters; and among the native population, newspapers are printed in five or six different alphabets, and a yet greater variety of languages.

The language most likely to prevail at *Aden*, in case

the English establishment becomes permanent, is the Hindoostanee.

On the *East Coast of Africa*, notwithstanding the large number of resident Arabs, the general medium of communication is the Soahili, a Negro language.

In *Malta*, a Catholic and European island, Arabic is alone spoken by the mass of the population; moreover, it is not here a written language.

The adoption of a language seems to be very much a matter of convenience, depending often on the numerical majority. A stranger learns the language of the community in which he may happen to fix his abode; and his children often know no other. On the supposition, then, that POLYNESIANS in former times may have reached the shores of America, it does not necessarily follow that we ought to meet with traces of their language. Some combined association of individuals, some clannism, seems requisite to the preservation of a language in the midst of a foreign nation.—Thus it may be inferred, that the HEBREWS retained their language during their sojourn in Egypt, while in their present dispersed condition they speak the languages of their several adopted countries, to the very common neglect of their own.—The GYPSIES, who are almost as widely, though less individually dispersed, retain everywhere something of their original language.—But a more remarkable instance is found in the YUCHI, a tribe "long incorporated in the Creek Nation; their peculiar language* abounding in low, difficult, guttural sounds, so that with the exception of a few words, no one but the children of the Yuchi has ever been able to acquire it.

The following are instances of more complicated relations: —A foreigner might naturally suppose, that he could learn, in the *United States*, something of African languages and customs; but he might traverse the country without hearing a word of any Negro language, a single generation being sufficient to efface all knowledge of Africa.—*Hayti* would furnish him a more perplexing case; and perhaps nothing short of written history could solve the enigma of French being the language of that island.—Moreover, his search for

* On the authority of Dr. Boykin, of Georgia, U.S.

African institutions would not be more successful among the St. Vincent CARIBS.—And thus we have three examples where one physical race of men has succeeded to the language and institutions of another.

Turning now to the Pacific and East India Islands, we find languages of the Malay class spoken by three distinct physical races; and all analogy indicating that this type of language belonged originally to a single race, the particular source becomes a fair subject of inquiry. In determining this point, aid may be obtained from the geographical distribution of the three island races; from the well-known composition of the population of the East Indies, where the Malayan is an invading race, intruding and encroaching on the territories of the Negrillo; and from the fact, that the Negro race uses the same type of language at the Comoro Islands and Madagascar; while at the last-named island, the physical race of the Vazimba remains undetermined.

The relations between the three island races are further illustrated by the state of the diffusion of knowledge in the Pacific, where almost every Polynesian art can be distinctly traced to the Feejee Islands.

Agriculture and civilisation are very commonly regarded as inseparable; but the Feejeeans, notwithstanding their ferocious and barbarous manners, are found to possess a high degree of skill in cultivating the soil.

A little further west, at Vanikoro, the trunk of a tree, rudely fashioned, is simply grooved to afford foothold, while an outrigger is attached, and a mat is spread for a sail.* In our part of the globe, few would be willing, thus on a simple log, to launch out into an unknown ocean. The pattern, however, seems to shadow forth the Feejee canoe; and it by no means follows, that the race which elicited the spark of civilisation, should have most profited by the advantage.

The inventions of the Negrillo, a race so averse to, and almost refusing voluntary intercourse with strangers, were not likely to benefit the rest of mankind. If acquired, elaborated, and improved by the Feejeeans, still, from the social condition of this people, their dislike of change, and

* See the vignette in D'Urville's History of the Voyage of the Astrolabe.

unwillingness to leave home, the knowledge might not have extended further. A third race is called into requisition, one of a roving disposition, the proper children of the sea; who, naturally the most amiable of mankind, are free from antipathies of race, are fond of novelty, inclined rather to follow than to lead; and who, in every respect, seem qualified to become a medium of communication between the different branches of the human family. Such an office is even indicated in the geographical distribution; for the Malayan alone makes a near approach to universal contact with the other races.

While admitting the general truth, that mankind are essentially alike, no one doubts the existence of character, distinguishing not only individuals, but communities and nations. I am persuaded that there is, besides, a character of race. It would not be difficult to select epithets, such as "amphibious, enduring, insititious;" or to point out, as accomplished by one race of men, that which seemed beyond the powers of another. Each race possessing its peculiar points of excellence, and at the same time counterbalancing defects, it may be, that union was required to attain the full measure of civilisation.

In the organic world, each new field requires a new creation; each change in circumstances going beyond the constitution of a plant or animal, is met by a new adaptation, until the universe is full; while among the immense variety of created beings, two kinds are hardly found fulfilling the same precise purpose. Some analogy may possibly exist in the human family; and it may even be questioned whether any one of the races existing singly would, up to the present day, have extended itself over the whole surface of the globe.

CHAPTER XVI.

GEOGRAPHICAL PROGRESS OF KNOWLEDGE.

LEAVING now the physical diversity of the human family, and recurring to the order of the voyage of the Expedition: in proceeding always west, the American tribes first engaged our attention, and next the widely scattered Polynesians.

Among the latter people it soon became evident that their customs, arts, and attainments, were not of independent growth. And further, that the supposition of the Polynesians being the descendants—the scattered remnants of a highly civilised people now relapsed into barbarism, did not altogether meet the case.

The East Indies being regarded by general consent as the place of origin of the Polynesians, it was natural to seek there for some corresponding tribe, for something analogous to the relation among European nations, of England to the United States. But on the contrary, surprise arose at the want of resemblance, and the term "Malay origin," if used in a national sense, was discovered to be incorrect.

So, in looking to Asia, to China, Japan, or the neighbouring countries, for some tribe corresponding with the aboriginal Americans, we shall equally find ourselves at fault. For the remote environs of Bhering Straits do not offer a fair exception.

After being much perplexed for an explanation, it was only on taking leave of the East Indies that the following simple reflection occurred to me:—If the human family has had a central origin, and has gradually and regularly diffused itself, followed by the principal inventions and discoveries, the history of man would then be inscribed on the globe itself; and each new revolution obliterating more or less of the preceding, his primitive condition should be found at the furthest remove from the geographic centre: as, in the case

of a pebble dropped into the water, the earliest wave keeps most distant from the point of origin.

If then we could go back into the early history of the East Indies, we might find there a condition of society approximating to that of the Polynesian Islands. And we can readily understand how customs may continue in remote situations, after having become obsolete at the place where they originated.

They who send ships over every sea, and who live where inventions from different sources become common property at once, may not readily appreciate the state of things in the absence of such universal intercourse. But on the other side of the globe, in the vast space between Arabia and the coast of America, traces of successive waves in society seem actually to exist.

a. *The East Indies.*

Thus, in the East Indies, in the north-eastern or the heathen part of Celebes,* we observe many striking coincidences with the state of society among the ancient Greeks. We have the spear, the shield, and the sword; and these weapons are even almost identical in pattern. Altars and sacrifices, so generally obsolete at the present day, are here extant. Auguries continue to be drawn from the entrails of offered victims, and also from the flight of birds. A separate literature has become an object of national pride. While the proa of the surrounding seas approaches in many respects the ancient row-galley of the Mediterranean. A further analogy may even be found in the custom of putting to death strangers arriving by sea, which, it appears, was not unknown among the ancient Greeks.

A little to the west of Celebes, the literature of the Malay nation contains a translation of the Fables of Æsop; who, according to the unsatisfactory accounts we have of him, was one of the earliest of the Greek writers. And further, the fact may be noted, that the Æsopian style of composition is still in vogue at Madagascar.†

Superstitions also appear to be subject to the same laws of progression with communicated knowledge; and the belief

* See the accounts, by D'Urville and others.

† See Ellis's Madagascar.

in ghosts, evil spirits, and sorcery, current among the ruder East Indian tribes, in Madagascar, and in a great part of Africa, seems to indicate that such ideas may have elsewhere preceded a regular form of mythology.

In the East, Luzon is one of the most distant points reached by the invention of letters, or having an aboriginal *alphabet*. I was therefore much struck with some coincidences in the forms of the letters, between the obsolete Tagala alphabet and the ancient Geez of Abyssinia;* while in the intervening countries the alphabets, although various, are altogether unlike. It is true the connexion is not entirely obliterated, but may be traced in the mode of marking the termination of words among the Bugis and the Siamese.

The multiplicity of alphabets in the East Indies seems to offer a parallel to the multiplicity of languages in America; and I have found nothing, in all this, contravening the idea of a single source to the invention. Many of the East India alphabets are plainly derived one from another, the form of the characters often being merely modified and new ones superadded: but I shall assume only that the knowledge of the existence of the art was derived from abroad. Much of the difference, between alphabetic writing in the East Indies and our own more perfect system, seems attributable to the circumstance, that the alphabet transmitted to the West by Cadmus had been already elaborated.

Let the reader, in thought, divest himself of his education, and suppose that his mother tongue had never been reduced to writing; and, further, that the possibility of representing sounds by signs had simply arisen in his mind. The attempt to carry this idea into practice will be found by no means so easy as it may at first appear; and, by most persons, would probably be abandoned. With the aid of example, there would be a greater prospect of success; but even, with several characters communicated, their forms would probably be modified, and new letters invented, for sounds difficult to be reconciled, or that might be unrepresented. Where the model has been imperfect, it has appeared to me that the system founded upon it would

* I refer to the "Nubian Alphabet," of Frye's Pantographia.

naturally be complicated; one requiring long study, and which might serve for a profession, a means of procuring support; in short, more resembling the inconvenient alphabets of the East India islands, than the simple analysis of sounds which we have in the Roman letters.

b. *The Feejee Islands.*

Eastward from Celebes, and nearly equidistant with Madagascar, we have the Feejee Islands, situated entirely beyond the direct influence of the East Indies. We find, nevertheless, a regular system of mythology; oracles; the javelin, or throwing-spear; the patera, or shallow drinking-bowl; the "pipe of Pan;" and the "alabastron," with the practice of anointing. We have likewise the wooden neck-pillow, and the practice of circumcision, both common to the ancient inhabitants of the Thebaid, and also to the modern Abyssinians and their neighbours on the south. We have, further, the legend of an enormous bird, the "Rok" of the Arabian Tales; and a similar story is said to be likewise current in Madagascar and in the neighbouring parts of Africa.

Among the subjects which promise to throw light on the affiliation of nations, none more deserves attention than the calendar and state of astronomical knowledge. These points have been much neglected in the accounts of the East Indian and Pacific islands. The Feejeeans have a regular calendar; and, I may add, that Veindovi kept a strict account of the number of the moons, during the whole time he was on board the Vincennes.

c. *Polynesian.*

The Polynesians, notwithstanding their more eastern geographical position, have most of their customs, arts, and acquired knowledge, in common with the Feejeeans; but there are certain points which require a separate notice.

The eagerness with which whole communities, young and old, devoted themselves to reading and writing, when these arts were introduced, and the care previously taken to preserve and transmit poetry and history by means of living records, are facts of interest, under more than one point of view. Whoever has witnessed something of this, will hardly

be willing to admit that such a people would ever have *lost* the art of writing. It should seem, then, as has been remarked by others, that the Polynesians belong to a wave of migration that preceded the invention of letters.

Corresponding results may be deduced: from the ignorance of money, or of a medium of exchange; although property is acknowledged, inherited, and guarded by regular laws, even to a division of the soil. And again, from the absence of all kinds of "grain;" notwithstanding the advanced state of the art of cultivation.

The strict adherence to truth among portions of the Polynesian family, stands opposed to the treachery of the Feejeeans; and further, it seems to result mainly from the simplicity of the Polynesian character, the contrary practice being looked upon rather in the light of an error of judgment. The pseudo-accomplishment, however, proved to be not unknown to the chiefs. Other traits in the moral man might be adduced; for the "golden age," in accordance almost literally with the ideas of the ancient poets, still exists on some of the secluded Polynesian isles.

d. *America.*

I hardly know whether to refer here to America; though in general the aboriginal Americans are to be regarded as in a less advanced state of society than the Polynesians.

We note throughout Aboriginal America, the entire absence of poetry and literature. Records, indeed, of a certain description were preserved by the Mexicans; but among the tribes of the United States, the tradition of remarkable events is said to disappear in very few generations. We note also in extensive and varied districts, a complete ignorance of agriculture; and where it is otherwise there is usually no division of the soil. A further difference from the islanders, is found in the absence, in most instances, of hereditary governments.

The custom of *scalping*, so well known in North America, may be noticed in this place, on account of its having been described by Herodotus;* while it is not, that I am aware of, in vogue among any Asiatic tribe of the present day.

* Herodotus; Melpomene, 64.

CHAPTER XVII.

MIGRATIONS BY SEA.

THE state of the diffusion of knowledge, depends then in a good measure on the facilities of intercourse, and, in the foregoing instances, of maritime intercourse; for I think it will be admitted that the islands and countries referred to, were chiefly, if not exclusively, discovered and colonised by seafaring tribes. This, however, may be more evident to those who have some knowledge of maritime affairs, some familiarity with the world of waters, and with that distinct class of human beings who thereon seek subsistence. Many difficulties, which previously existed in my own mind, have vanished since making a sea-voyage.

Coral shores are vastly more productive in animal life than the ordinary sea-coast, and thus yield a more important contribution to human sustenance. After witnessing at the Pacific islands, the multitudes of persons who daily resort to the reefs, where they become familiar with the surf, I have questioned whether something like this did not first tempt man to venture upon the ocean. On coasts of a different character, destitute of harbours and of outlying isles, and especially where lashed by a heavy surf, the idea of quitting the land does not seem a very natural one. On the other hand a coral shore, an islet in sight, with water of an agreeable temperature, have appeared to me to constitute all the requisites for the birth of navigation.

In considering why the comparatively narrow Atlantic so long proved impassable, the character of the coasts should be kept in view; and those especially of the African continent. Something may be allowed for a difference in the natural disposition of the races; and also for the probability that distant voyages were first made by following the coasts.

a. *The North Pacific.*

To persons living around the Atlantic shores, the source of the aboriginal population of America seems mysterious; and volumes have been written upon the subject. Had the authors themselves made the voyage to the North Pacific, I cannot but think that much of the discussion would have been spared. In the absence of such an opportunity, a reference to a good globe may be useful before entering upon the question. But I confess it was only on actually visiting that part of the world, that the whole matter seemed to open to my view.

The coast of north-western America is broken by countless inlets and channels, which penetrate the continent, as well as lead among islands; and, for a distance perhaps unparalleled, offer a land-locked passage to the largest vessels. The shores are everywhere occupied by populous maritime tribes, who derive subsistence from the abundant products of the water. This description of coast extends northward, almost without interruption, to the peninsula of Alashka; and, in continuation, the islands of the Aleutian Group, stretching in close proximity to the very borders of Asia, are inhabited by the same class of population. Where, then, shall Asia end, and America begin?

To the southward, the character of the coast changes, near the mouth of the Columbia River; and beyond this point there is no room for the development of a maritime population. The canoes of the Straits of De Fuca are of wood, are well made, and the natives frequently go in them many miles into the open sea. A little further north we meet with an improved model, the "baydar," or skin canoe, which is used among the Aleutian Islands, and generally throughout Russian America. I have seen one of them, and, from its lightness, elegance, and the capacity of being rendered impervious to both air and water, I could not but admire its perfect adaptation to the purposes of navigation; for it seemed to almost enable man to take a place among the proper inhabitants of the deep. Such vessels are obviously fitted to cope with the open sea, and so far as the absence of sails permits, to traverse a considerable expanse of ocean.

The presence of these skin canoes among the Esquimaux of the Greenland seas, was long regarded as proof of the existence of a northwest passage; and it likewise indicates the course of human migrations.

I have not examined authorities to ascertain whether the passage across Bhering Straits is practicable for a people in the purely hunter state. But, in view of the large portion of Northwest America in contact with maritime tribes, these tribes have appeared to me the most probable source of the inland population.

It should be observed that there are two other portions of America that afford room for the development of a maritime population: the coral-bound West Indies, and the border Magellanic Archipelago. The latter is a counterpart to the region we have been considering; and its remote geographical position seems to imply an independent rise of navigation, together with an inverse order of descent, in the derivation of maritime from inland tribes.

Men of a second physical race have aboriginally found their way to the western coast of America, and by the open sea, which latter circumstance will be found to have several important bearings.

The Polynesian Groups are everywhere separated from South America by a vast expanse of ocean, where rough waves, and perpetually adverse winds and currents oppose access from the west. In attempting from any part of Polynesia to reach America, a canoe would naturally and almost necessarily be conveyed to the northern extreme of California; and this is the precise limit where the second physical race of men makes its appearance. So well understood is this course of navigation, that San Francisco, I am informed, is commonly regarded in Mexico as "being on the route to Manila."

Again, the northern extreme of California is as favourably situated for receiving a direct arrival from Japan. At the present day, owing to a change in national policy, Japanese vessels are only by accident found at large. But, within a few years, one has been fallen in with by a whaleship in the North Pacific; another has been wrecked on the Sandwich Islands; and, a case more in point, a third has been drifted to the American coast, near the mouth of the Columbia River.

b. *The Main Pacific.*

Of the aboriginal vessels of the Pacific, two kinds only are adapted for long sea-voyages: those of Japan, just mentioned, and the large double canoes of the Society and Tonga Groups. In times anterior to the impulse given to civilised Europe, through the novel enterprise of Columbus, Polynesians were accustomed to undertake sea-voyages nearly as long, exposed to equal dangers, and in vessels of far inferior construction. However incredible this may appear to many, there is sufficient evidence of the fact.

The Tonga people are known to hold intercourse with Vavao, Samoa, the Feejee Islands, Rotuma, and the New Hebrides. But there is a document, published before those seas were frequented by whalers and trading-vessels, which shows a more extensive aboriginal acquaintance with the islands of the Pacific. I allude to the map, obtained by Forster and Cook from a native of the Society Islands, and which has been shown by Mr. Hale to contain not only the Marquesas, and the islands south and east of Taheiti, but the Samoan, Feejee, and even more distant groups.

Again, in regard to the principles of Navigation, the Polynesians have been found to possess a better knowledge of the subject than is commonly supposed, as appears from recent discoveries at the Hawaiian Islands. One of the Hawaiian headlands has been found to bear the name of "the starting-place for Taheiti;" the canoes, according to the account of the natives, leaving in former times "at a certain season of the year,* and directing their course by a particular star."

The two blackish races, inhabiting the extensive archipelagoes, between the Feejee Islands and New Guinea, are often skilful enough in canoe-management; but the absence of a wandering disposition, and peculiarities in civil institutions, would seem greatly to impede diffusion and colonisation. The Feejeeans hold no intercourse with their brethren of the New Hebrides; and a similar state of things appears to prevail at the more western groups: though the existence of intercommunication of some sort

* On the authority of the missionaries.

is shown by the use of betel having reached the Santa Cruz or Nitendi Group, and even Tikopia* and the New Hebrides.

North of the Papuan archipelagoes, the Micronesians, like their brethren the Polynesians, are a migratory people; and they are reported to traverse, even in small canoes, the widely-extended archipelago of the Carolines. There is yet no direct intercourse with the East Indies, notwithstanding the advantage of the monsoons, for a good part of the distance.

It will be perceived, then, that there are actually (though not so represented on the map,) two routes of migration leading from the East Indies into the main Pacific, one through the Micronesian groups and the other by the Papuan archipelagoes.

c. *The East Indies.*

The proas of the East Indies seem to be every way adapted for traversing the open sea; yet, in no instance that I am aware of, have they been found at any considerable distance from the outer coasts; and these, even, are in a good measure avoided. There is certainly no exception to the usual semi-aquatic habits of the race; for the East Indians are fully as fond as the Polynesians of being in and upon the water. At the present time the Bugis of Celebes may be said to rule the East Indian seas, their commercial enterprises extending to all parts of the immense closed archipelago, from the borders of Asia to the northern coast of Australia.

The Chinese "junk" seems also to belong properly to the region under consideration; and being used chiefly within the limits of the monsoons and among land-locked expanses, where the Equator brings exemption from storms, the construction may prove to be by no means ill-adapted to the circumstances.

d. *The Bengal Sea.*

The Telingan people, in company with various adventurers from the eastern coast of Hindostan, have long been in

* See D'Urville, and others.

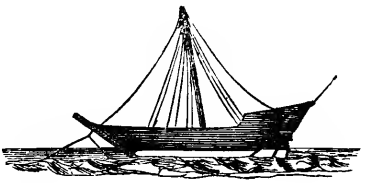
the habit of resorting in large bodies to the East Indian islands. Among some thousands seen at Singapore, nearly all the individuals I questioned had embarked at Madras.

I observed, however, in the harbour of Singapore, a vessel from Cochin (near the southern point of Hindostan). It was clearly a proper sea-vessel, one vindicating the more advanced knowledge of Navigation in the West: moreover, the construction, although peculiar, offered, with the raking masts and the sharpness of hull, a nearer approach than was anticipated to a celebrated model at home.

The Maldive islanders, likewise, are known to make voyages to and from the East Indies. I am not sure that I have met with any of these people, and I am even undecided as to their physical race, though a range of coral-reefs would seem to present attractions to but one branch of the human family. The geographical position, and reported enterprising character of the inhabitants, seem to indicate that these islanders may have taken an important part in colonising the surrounding regions; and I can even conceive of the possibility of the whole population of the Malay countries having been originally derived from such a limited source.

e. *The Arabian Seas.*

We come now to the fifth and last remove in the main route of marine migrations; the tract of ocean interposed between Hindostan and East Africa, and terminating in two separate appended seas. Voyages in this quarter are made by following the coasts; and the navigation is chiefly in the



hands of the Arabs. The vessels they employ are of uniform model, and are called "dows." A figure of one of them is annexed.

The Arabs, however, for several centuries, have exceeded these precise limits; as may be inferred, among other circumstances, from the extension of Islamism to the East Indies without its undergoing the modifying influence of Hindostan. Of late years, since the Arabs have procured European ships, and have learned to quit the coasts, this direct intercourse has much increased. I have myself seen, at Mocha, vessels arriving from the East Indies; and I met with the circular-bladed oar of the Persian Gulf, both at Singapore and in the harbour of Manila.

Arabia being situated entirely within a Desert region, the timber used by the inhabitants is all imported from abroad, either from the Malabar coast, or from Zanzibar. And, leaving the absence of natural inclination for maritime pursuits, it would seem a fair inference, that navigation did not take its rise in a country devoid of the materials of construction.

South of the Arab colonies of East Africa, we have Malay influence of unknown antiquity, at the Comoro Islands and Madagascar. Here, too, the outrigger makes its appearance, an article not used by the Arabs, but which is general in the Pacific, and occurs at Sooloo, and, if I am rightly informed, at Ceylon. The Maldive islanders make regular voyages only to the eastward; but the fact of a Maldive canoe, with several persons on board, having recently drifted to the vicinity of the African coast, shows at least the practicability of intercommunication.

We have thus designated, between Eastern Africa and the coast of America, no less than five separate theatres of maritime intercourse. Each of these has different attendant circumstances, is navigated by a different people, and in vessels of a different construction; each, if thoroughly examined, would furnish ample materials for a separate volume; and this state of things has existed for ages, notwithstanding the silence of History.

CHAPTER XVIII.

MIGRATIONS BY LAND.

WE are unacquainted, at the present day, with "men living in a state of nature," or devoid of all communicated knowledge. Some idea, however, of such an original state, may be gathered from the condition of certain uncivilised tribes; but not on the continents. Where intercommunication is universal, manners assimilate, changes become general, and society in some shape, seems an unavoidable result.

Islands afford more scope for the development of local and independent institutions; and one portion of the globe situated aloof from continental influence, more particularly demands attention: an island-world, where the widely-extended coasts have been for ages occupied by invading maritime tribes, to the seclusion of the people of the Interior. Man, in some of the larger East India islands, presents phases, difficult to be comprehended by those who have seen him only on coasts and continents.

I have selected, from authorities which I think may be relied on, the four following examples of Life in the East Indies. And it will be observed, that some of the tribes spoken of, are in the "hunter state," and live on the spontaneous products of the land; a circumstance rare among islands: where, moreover, the proper "pastoral state," appears to be quite unknown.

1. I shall notice in the first place the BATTAS OF SUMATRA; and chiefly on account of the extraordinary character of some of their customs; for, compared with many tribes in the same quarter of the globe, they are an advanced, and in some respects even a polished people. They cultivate the soil, have a division of landed property, a currency, a regular system of laws and government, an alphabet, and a literature of their own: and yet, they not only eat their parents (a custom among other East Indian tribes, and mentioned

even by Herodotus), but they seem literally to devour them alive :—

"Marsden * confines their cannibalism to two cases, that of persons condemned for crimes, and that of prisoners of war; but they themselves declare that they frequently eat their own relations, when aged and infirm; and that, not so much to gratify their appetite, as to perform a pious ceremony. Thus when a man becomes infirm and weary of the world, he is said to invite his own children to eat him, in the season when salt and limes are cheapest. He then ascends a tree, round which his friends and offspring assemble, and as they shake the tree, join in a funeral dirge, the import of which is, 'The season is come, the fruit is ripe, and it must descend.' The victim descends, and those that are nearest and dearest to him deprive him of life, and devour his remains in a solemn banquet."

Major Canning states,† "that during his residence at Tappanooly (1814), in the heart of the Batta country, he omitted no opportunity of making the most minute inquiries" on the subject of their cannibalism; "all of which tended, not only fully to corroborate the reality of the practice, but that it is much more frequent than is generally imagined, and carried on in a manner even more savage than is related by Mr. Marsden. The following are the questions put by me to a native chief, selected indiscriminately from an assembly of several, collected on some particular occasion at the house of the officiating resident at Tappanooly, and his answers :—

Q. "I understand the practice of eating prisoners taken in war, also malefactors convicted of certain crimes, is prevalent in the Batta country; were you ever personally present at such a repast?"

A. "The custom you mention is prevalent throughout the Batta country, and I have been more than once present when it has been put in practice."

Q. "Describe what takes place on such occasions."

A. "Three posts are fixed in the ground; to the middle

* See Leyden, Asiatic Researches, vol. x. p. 202.

† Malacca Observer, 1827; cited, as also the preceding extract, from Moore's Papers on the Indian Archipelago.

one the body of the prisoner or criminal is made fast, while his arms and legs are extended to the two others. (The narrator and other chiefs present, here simultaneously made with their arms and legs, the figure of St. Andrew's cross.) On a signal being given, every one entitled to a share in the feast, rushes on him with hatchets and knives, and many with no other instruments than their teeth and nails. He is thus in a few minutes entirely cut or torn to pieces, and I have seen the guests so keen at a repast of this description, as severely to wound each other's hands and fingers. A mixture of lime-juice, salt, and chillies, prepared in the shell of a cocoa-nut, is always at hand on these occasions, in which many dip the flesh previous to eating it."

Q. "Then, the prisoner is not previously put to death, but devoured alive and piecemeal?"

A. "The first wounds he receives are from the hatchets, knives, and teeth of his assailants, but these are so numerous and simultaneous as to cause almost immediate death."

"The above are the questions and answers which I put to and received from the native chief; on which occasion it was remarkable that more than once, when he was proceeding to give the latter, the others altogether, and at the same moment, joined assent, which leaves little room to doubt, that to most of them, at least, such scenes were familiar."

2. The second instance selected, that of the WILD PEOPLE OF CERAM, is of a widely different character. Society here appears hardly to exist; but each family lives in a state of perpetual hostility with all around.

"Among* these Alforese (inhabiting the interior of Ceram) there is another kind of savage people, who do not dwell in houses or huts, but upon high Warinje and other trees, that spread their branches wide around. They lead and intertwine the branches so closely together, that they form an easy resting-place; and each tree is the habitation of a whole family. They adopt this mode, because they dare not trust even those of their own nation, as they surprise each other during the night, and kill whoever they take hold of."

* Rumphius, MS.; copied in Stavorinus's Voyages. English edition, 1798.

3. But I cannot persuade myself that the first natural impulse of man is to kill; and, in this respect, the third example, that of a FOREST TRIBE OF THE MALAY PENINSULA, especially deserves attention. The following account* of this so-called "Original People" is stated to have been derived, partly from the Malays, and partly from people of neighbouring tribes:—

"The Original People live in the dead of the forest. They never come down to the villages for fear of meeting any one. They live on the fruits of the forest and what they take in hunting, and neither sow nor plant. When a young man and woman have engaged to marry, they proceed to a hillock; the woman first runs round it three times, when the man pursues; if he can get hold of her, she becomes his wife, otherwise the marriage does not take place, and they return to their respective families. Their language is not understood by any one; they lisp their words, the sound of which is like the noise of birds, and their utterance is very indistinct. They have neither king nor chief of any kind; but there is one man whom they style Puyung, to whom they refer all their requests and complaints, and they invariably adopt his decision. They have no religion, no idea of a Supreme Being, creation of the world, soul of man, sin, heaven, hell, angels, day of judgment. They have no priests. The Puyung instructs them in matters relative to sorcery, ghosts, and evil spirits, in the belief of which they are all influenced. They never quarrel or go to war with another tribe. In sickness they use the roots and leaves of trees as medicines. When one of them dies, the head only is buried; the body is eaten by the people, who collect in large numbers for that purpose."

What is stated of their language is the more worthy of note, when it is considered that the dialects of the neighbouring and closely related tribes belong to the Malay class. Whoever has chanced to be thrown among people, not a syllable of whose speech he could comprehend, will know, that amid many inconveniences it is still possible to get along. And, in the condition of things to be next mentioned, the nearest I have heard of to the "natural state of

* From a printed sheet, obtained at Singapore.

man," it seems questionable whether a language of words is really needed.

4. The instance alluded to is that of the WILD PEOPLE OF BORNEO, who are described by Dalton* in the following words:—"Further towards the north are to be found men living absolutely in a state of nature, who neither cultivate the ground, nor live in huts; who neither eat rice nor salt, and who do not associate with each other, but rove about some woods, like wild beasts. The sexes meet in the jungle, or the man carries away a woman from some campong. When the children are old enough to shift for themselves, they usually separate, neither one afterwards thinking of the other. At night they sleep under some large tree, the branches of which hang low. On these they fasten the children in a kind of swing. Around the tree they make a fire, to keep off the wild beasts and snakes. They cover themselves with a piece of bark, and in this also they wrap their children. It is soft and warm, but will not keep out the rain. These poor creatures are looked on and treated by the Dayaks as wild beasts. Hunting parties of twenty-five and thirty go out, and amuse themselves with shooting at the children in the trees with the sumpit, the same as monkeys, from which they are not easily distinguished. The men taken in these excursions are invariably killed, the women commonly spared if they are young. It is somewhat remarkable, that the children of these wild people cannot be sufficiently tamed to be entrusted with their liberty. Selgie told me he never recollected an instance when they did not escape to the jungle the very first opportunity, notwithstanding many of them had been treated kindly for years. The consequence is, all the chiefs who call themselves civilised, no sooner take them, but they cut off a foot, sticking the stump in a bamboo of molten damar; their escape is thus prevented, and their services in paddling canoes retained. An old Dayak loves to dwell upon his success on these hunting excursions; and the terror of the women and children, when taken, affords a fruitful theme of amusement at all their meetings." The

* In the Singapore Chronicle, March and April, 1831. Reprinted in Moore's Papers on the Indian Archipelago.

following additional information is, however, somewhat unexpected. After speaking of the excellence of the iron and steel of the interior of Borneo, and of the extent of its manufacture among the Dayak tribes, Dalton continues: "Those men whom I have noticed, living in a state of nature, building no habitations of any kind, and eating nothing but fruits, snakes, and monkeys, yet procure this excellent iron, and make blades, sought after by every Dayak, who, in their hunting excursions, have in view the possession of the poor creature's spear or mandow, as much as his head, improbable as it may appear."

Above will be found something like evidence, that mankind have the ability to diffuse themselves widely over the globe, without associating, and in the absence of the invention of language.

Beginning now at the extreme West: let us consider some of the barriers to such a diffusion, the means of overcoming them, and the geographical position of adjoining countries.

The fertile portion of Africa is surrounded by water on every side except the north, where a vast uninhabitable space seems impassable to man in his ruder state.

There exists, however, a natural highway across the Sahara, in the unique geographical position of the Nile; and individuals, by following the banks, or floating on the bosom of this remarkable river, could easily reach the countries of the North.

The acquisition of domestic animals, and more particularly that of the camel, wrought a change throughout the region in question; and one of the camel routes may be here specified as connecting countries which make a conspicuous figure in History. Commencing in the table-land of Abyssinia, and crossing the entrance of the Red Sea, the route leads northward, and through the narrowest part of Arabia, to Persia (a country more conveniently accessible from the heart of Africa than may at first be supposed); continuing eastward, the route terminates in Hindostan, at the second grand natural barrier of races and nations, the Himalaya range of mountains.

In order to a clear understanding of the history of Oriental nations, it is necessary to observe, that the above

Desert tract contains four principal oases: the first consists of Egypt, or of the alluvial flats of the Nile; the second consists of the alluvial flats of the Euphrates; the third, of a strip of land along the southern margin of the Caspian; and the fourth, of the alluvial flats of the Indus.

The difference in the circumstances between intercourse by land and by sea involves a corresponding difference in the state of the diffusion of knowledge; but successive waves of social revolution are traceable in the relics of ancient nations preserved in Hindostan, likewise in the slow progress of innovation in mountain fastnesses and in other secluded situations. Thus the people of the western Sahara continue to entertain the belief, that Cimmerian darkness overhangs the Atlantic, and that the sun rises only for themselves. They have been known to ask visitors, "Do you sow barley in your houses?" meaning the ships, in which they supposed that Europeans were born and passed their lives.

CHAPTER XIX.

ORIGIN OF AGRICULTURE.

THE alimentary resources offered to man by the natural vegetation of different countries are by no means in proportion to the fertility of the soil or the variety of the productions; and the wanderer would be in more danger of perishing from hunger in the wilds of Brazil than in Terra del Fuego.

The first part of the voyage of the Expedition led into regions which present striking peculiarities and marked contrasts in the vegetable growth; and, after visiting successively Madeira, the Cape Verd Islands, Brazil, Patagonia, Terra del Fuego, Chili, the Chilian Andes, and Lower Peru, I hardly anticipated further novelty in the general aspect of vegetation. A new phase, however, awaited me at the very next stage of my progress, and one in regard to which I will enter into some details.

The western slope of the Peruvian Andes, at the elevation

of from six thousand to eleven thousand feet, presents nothing of the wildness and magnificence of primeval forests: it is not, like some Northern "prairies," clothed with a grassy sward, or, at one season of the year, with a fleeting array of a few kinds of flowers; neither, again, like most open countries, is it fairly arid. There is no general tendency to the production of spines; and if occasionally a woody plant of moderate height has a tree-like trunk, there are yet no marks of stunted growth. Proper shrubs, of various affinity, are common enough; yet they nowhere grow in contiguity, or form thickets. *Cacti*, too, are everywhere conspicuous; not such as are familiarly known in green-houses, but a varied and peculiarly fantastic series. The soil, however, is principally occupied by herbaceous and other humble plants, growing, not in such a manner as to cover the surface, but detached, almost as if artificially set out. Ornamental plants are in profusion; and, in the absence of all rankness of habit, they are precisely such as meet the general taste of florists. The most abundant of these showy plants may be enumerated in the order of colours: and here, again, instances will be observed, contravening our usual associations. Scarlet shines forth in *Salvias*, *Scutellaria*, *Mutisias*, and *Indigofera*, interspersed and tempered amid the blue of other *Salvias*, of *Lupines*, *Plumbago*, and *Polygaleæ;* orange, too, is present in the frequent *Tropæolums*, *Lobelia*, and *Loasas;* and likewise purple in *Bacasia*, and in large-flowered *Boerhaavias;* but, over all, yellow predominates, from the profusion of *Calceolarias*, and of *Senecios* and other rayed *Compositæ*.

While travelling in the midst of what I could only compare to an artificial flower-garden, outspread over hill and dale, the thought arose: In a region like this, producing also esculent and tuberous roots, how natural would be the origin of agriculture; how little seems here wanting to disclose to man, in searching for his daily food, the secret of multiplying his means of subsistence.

In a forest, supposing a useful plant to be discovered, its cultivation would require a clearing, which seems too complex an idea for a first suggestion. On the other hand, the aridity of most open countries precludes cultivation, unless with the aid of irrigation, and this requires even further

advancement. Of countries not altogether barren we have an instance in Oregon, where, notwithstanding that the natives annually seek subsistence from bulbous and other roots, (none, however, tuberous,) the idea of assisting nature by art has not been developed. Again, on the Sacramento River of California, where, by a singular approximation to the use of grain, minute seeds of grasses and other plants constitute an article of food, the natives, nevertheless, have not advanced beyond gathering the spontaneous crop.

In considering the topographical resemblance between Mexico and Peru, and the aboriginal condition of these countries, when compared with that of the rest of America, the conclusion seems hardly avoidable, that table-lands are the natural birthplaces of civilisation. A further inference would seem to follow: that, on entering a woody country, man will naturally relapse into a ruder state; and he must either conquer and destroy the forest, or he will himself yield before its influence.

The remote and widely isolated geographical position of Peru favours the supposition of a spontaneous development of civilisation; and there are attendant circumstances which point to the same conclusion.

In the mountain-region above described, and particularly in its more elevated portion, I met with small plantations devoted to three articles of aboriginal culture; the *Basella tuberosa*, the *Oxalis crenata*, and the *Tropæolum tuberosum*. These are plants, which, besides, appear to belong naturally to the region in question; and they all have tuberous roots. A fourth tuber-bearing plant was seen cultivated side by side; one, which did not aboriginally reach Mexico, but which has now become universally known,—the common *potato*.

Again, Peru is possibly the only part of America that possessed indigenous domestic animals. The *lama* and the *guinea-pig*,* like the above-named cultivated plants, are

* The fact may be here noted, as of some interest in Zoology,—that these two animals have become particoloured, and also subject to individual variation in colour, like other domestic animals. This change has equally taken place in the turkey, accompanied with one of the additional marks of servitude —the dewlap.

actual natives of Peru. But the third American domestic animal, the *turkey*, is well known to have its proper home in the wooded portions of the United States; and although not found in its domesticated state among the surrounding aboriginal tribes, it was probably reclaimed by a people less remote than the Peruvians.

America contains two of the natural centres of civilisation; and Asia contains one, the table-land of Thibet; all three being in the possession of the Mongolian race. If now we search the continents for a fourth table-land, which in height, extent, and geographical importance, can be ranked with the preceding, we shall find it only in Abyssinia.

It is, however, tolerably certain, that agriculture was not spontaneously developed in any part of Africa; and it should also be observed, that the cultivated plants of the East Indies and the Pacific Islands are not mountain productions. The same, indeed, may be said of the *cassada* (Jatropha manihot), a plant aboriginally cultivated in the hotter portions of America.

CHAPTER XX.

ZOOLOGICAL DEDUCTIONS.

THERE is surely no reason why the order of nature should be set aside, for the special accommodation of physical man; and taking it for granted that he has been placed on the globe in unison with the rest of creation, and subject to the same general laws which guide us in investigating other beings, we may proceed to search for his place of origin, in the same manner as for that of other natural productions. And, in the first place, let us examine his relation to climate.

The species of organic beings allotted to the various regions of the globe have in no instance been modified by climate or by other external circumstances; but each has been originally fitted in structure and constitution, precisely to the station in which it is naturally found. In a district exposed to extremes, whether of heat, cold, moisture, or

aridity, the indigenous animal or plant has the means of avoiding them, or else is protected against them in its outer covering purposes; accomplished in various modes, some of which are sufficiently familiar. It will follow, that if Europe were the proper home of the White man, he would be born with natural clothing; with, at least, some inherent provision securing the maintenance of life without aid from art.

Man then does not belong to the cold and variable climates; his original birthplace has been in a region of perpetual summer, where the unprotected skin bears without suffering the slight fluctuations of temperature. He is, in fact, essentially a production of the Tropics; and there has been a time when the human family had not strayed beyond these geographical limits.

According to another principle, established by the observations of naturalists, species are found to have a certain geographical range; and notwithstanding a few instances of wide diffusion, Nature has not reproduced a species in different quarters of the globe.

Each of the main divisions of the globe has its own natural productions; and these, moreover, are in such correspondence or consonance with each other, that any incongruity is rendered obvious, or, at least, may with practice be detected. Independently, too, of structural affinity, a local aspect often points to the geographical origin. The experienced naturalist will in general be able to distinguish an American production, and even whether it is from Northern, Tropical, or Austral America. The northern portion of the Eastern continent has an impress as clearly distinguishable on its animals and plants; and so with the Sahara, South Africa, Australia, the East Indies, and even with various more limited districts. The supposition then put forth by some writers, that man was originally planted on frosty Caucasus—is disproved by his physical discordance with the surrounding natural objects.

Nature in her productiveness seems, if we may use the expression, to delight in eluding our pursuit. In a given district, all the outward circumstances may favour the presence of beings of a certain class; and yet their places will be found occupied by other and unlooked-for forms. Tropical

America offers indeed an extraordinary variety of climates; nevertheless, I think it could be shown on zoological grounds alone, that the human family is foreign to the *American* continent.

Turning now to the East Indies, we observe a marked interruption in the approximated lands, separating *New Guinea* from the remainder of the archipelago. A change here takes place in the zoological productions. Those of New Guinea, it is true, are imperfectly known; but so far as ascertained, they partake of the *Australian* character; which precludes from this quarter the origin of man.

Madagascar being furnished with a peculiar set of quadrupeds, is for that very reason, equally out of the question; and the simple absence of ground-quadrupeds is sufficient to set aside the claims of the far-scattered *Isles of the Pacific*.

We are thus restricted to the remaining Tropical portion of the Eastern continent, which yet includes extensive countries, all possessing the Quadrumana, whose undoubted affinity to man in physical structure may not in this inquiry be neglected. Oriental tradition, in placing the origin of mankind in Ceylon, reconciles in many respects the requirements of Zoology. But there are certain coincidences which point in a different direction.

Of all parts of the globe, save only the very Poles, the EQUATORIAL COUNTRIES continue the least known; owing, in some measure, to the forests with which they are generally invested, to the rains, to ferocious beasts of prey, and to the unhealthiness of the coasts. The portions which I have myself visited, have not offered any striking variation in natural productions from the adjoining countries; and I only remarked a cooler climate than in the vicinity of the northern Tropic. It appears, however, that some of the most remarkable objects in the vegetable and animal creation have their home precisely under the Equator.

In the vast area of the Pacific, the Equator, for two-fifths of the circumference of the globe, intersects only coral islets; the Galapagos Group being excepted, and this is provided with remarkable reptiles and other productions, having no parallel on the neighbouring continent, or on the numerous and extensive archipelagos of the same ocean.

A distinct correspondence, however, may be traced in the Indian Ocean, in the instance of the near approach of the Equator to the Seychelles.

In the East Indies we have the Clove, "originally confined to five islets near the coast of Gilolo;" the Nutmeg, from the same quarter, and in its native state not much more widely diffused; and these two plants are not even cultivated to advantage at a distance from the Equator: we have, further, the Dryobalanops (or precious camphor tree), limited "to a belt of three degrees in width across Sumatra and Borneo;" also, the gigantic Rafflesias, and various other remarkable vegetable productions.

Among animals, we have the Paradise Birds of New Guinea; the Argus Pheasant, and other showy birds of Sumatra and the Malay Peninsula; the Galeopithecus; the Tarsier of the Moluccas; the Babyrussa and the Anoa Antelope of Celebes; the long-nosed Ape of Borneo; the Sumatran Tapir and Rhinoceros. And of the three Orangs, which of all animals, in physical conformation and even in moral temperament, make the nearest approach to humanity, one has been allotted to Borneo, another to Sumatra, and the third to a far distant region, but equally under the Equator, in Western Africa. Precisely in these countries physical man seems most in unison with the beings around him.

On referring to the accompanying map, we shall find that the races of men could all be conveniently derived from the same two centres, the one in the East Indies, and the other in Africa; and if we could suppose separate species, this, agreeably to known laws, would reconcile the geographical portion of the subject.

The objection of the slight external differences would not of itself be sufficient: for it is found in the organic world, that species differ by peculiarities which tend merely to change the aspect, while any radical change of structure involves the habits of life, and marks out a genus or group; in other words, that specific characters are external, while generic characters are anatomical.

On the other hand, a very decided change may take place in the aspect, without a specific difference, as is more particularly the case in domestic animals and plants. Among

these, moreover, we occasionally observe new varieties springing up at a distance from the original locality. Thus, new varieties of plums, apples, and pears have made their appearance in America since the introduction from abroad of the parent stocks.

Not so, however, with the human family. Notwithstanding the mixtures of race during two centuries, no one has remarked a tendency to the development of a new race in the United States. In Arabia, where the mixtures are more complicated, and have been going on from time immemorial, the result does not appear to have been different. On the Egyptian monuments I was unable to detect a change in the races of the human family. Neither does written history afford evidence of the extinction of one physical race of men, or of the development of another previously unknown.

It is true, varieties appear to have more permanence in certain kinds of animals than in others. Thus, the breed of *sheep*, figured on the most ancient Egyptian monuments, is unknown at the present day; and at least one variety of the *bullock*, formerly known in Egypt, has, in like manner, become extinct. On the other hand, among the many varieties of the *dog*, figured at Beni-Hassan, (anterior to the Pharaonic ages,) two have been pronounced identical with the Greyhound and the Turnspit now existing.—Within my own observation, I have found no tendency in varieties to revert, in the course of successive generations, to the original type. But this whole subject of varieties has received from naturalists very little attention; and when it shall be better understood, it may, perhaps, throw light upon the origin of the races of the human family.

There is, I conceive, no middle ground between the admission of eleven distinct species in the human family, and the reduction to one. The latter opinion, from analogy with the rest of the organic world, implies a central point of origin. Further, Zoological considerations, though they do not absolutely require it, seem most to favour a centre on the African continent. Confirmatory circumstances of a different character are not wanting, some of which may be worth enumerating.

In the first place, we have no less than five races actually

inhabiting Tropical Africa, while the diversity diminishes as we recede, until districts of greater territorial extent are inhabited by but a single race.

Again, some accordance may be found in the history and habits of the Arab tribes, holding, as they do, the country interposed between the heart of Africa and extensive and important seats of population; while these are occupied in regular succession by pastoral and agricultural nations. The disowning, too, by the Desert tribes, of such individuals as take up agricultural pursuits, looks very like the incipient extension of population.

There is something, also, in the fixed condition of the African tribes, on which Time, in some instances, seems scarcely to make an impression; something in the near approach to the absence of Invention, or of the spontaneous evolution of knowledge; something in the seeming yielding of civilisation before barbarism; and in the bounds prescribed to ambition, from the general failure of attempts to colonise this continent;—Africa, under various guise, having been always sending forth streams of population, and at the same time prohibiting a return.

CHAPTER XXI.

INTRODUCED ANIMALS AND PLANTS OF AMERICA.

America, when first visited by Europeans, appears to have contained but a single species of quadruped of foreign origin, the domestic *dog*. The route of its introduction is indicated by various circumstances; such as the aboriginal use of this animal for draught on both sides of Behring Straits, and the interweaving of the hair in blankets by the neighbouring maritime tribes. We shall find, moreover, a geographical coincidence; for, according to the presumed order of human migrations, all foreign animals, wheresoever occurring in aboriginal America, should be equally in the possession of the North-western tribes.

a. *Plants of Aboriginal Introduction.*

Independently of the usual habits of sea-going people, the latitudes above referred to preclude agriculture; and we have thus a ready explanation of the absence of this art from the adjoining more southern portion of the American continent; for, until the recent visits of foreigners, "no Oregon native had ever thought of planting a seed." It is clear, then, that no cultivated plant was introduced into America by this northern route: but we cannot speak so positively in regard to weeds.—I found two weeds growing abundantly around the Chinook villages, *Polygonum aviculare*, and *Chenopodium album*: and Mr. Brackenridge met with a third, *Plantago major*, in the secluded district of Gray's Harbour.

Further south, I discovered some doubtful appearances of aboriginal agriculture on the Sacramento River, in a bed of the "chilicoyote or wolf-poison," *Cucurbita fœtidissima?*, growing near a native village: as, however, the plant did not seem to be valued (the natives making no objection to my taking the fruit), it may have been merely naturalised. I did not meet with any other weeds growing around the native villages of the Upper Sacramento; but *Solanum nigrum* was occasionally seen on the river bank.

In the eastern part of America, both within and for a considerable distance without the Tropics, agriculture is known to have

existed aboriginally; and, moreover, some of the objects of cultivation appear to have been derived from abroad. The latter point is of importance; for it may be, after all, that agriculture was not of spontaneous development in America.

In the aboriginal condition of America the indigenous domestic animals and plants seem to have been principally and separately confined to the two centres of civilisation, Mexico and Peru: the lama and the Peruvian cultivated plants had not reached Mexico; while the Mexican cochineal, agave, and tobacco had not reached Peru. On the other hand, the plants which seem to have been aboriginally derived from abroad were much more generally diffused, as in the corresponding instance of the dog.

The plant most widely cultivated in aboriginal America is the *maize*, or Indian corn. If it shall prove foreign, there is but one route open to its introduction, that of Japan. It is further manifest, from the local absence of the plant, that North California was not the point of dissemination to other parts of America.

I met with specimens of aboriginal *cotton* at the ancient Peruvian cemetery of Pachicamac. The species differs from the Polynesian, and is perhaps peculiar; though the plants of this genus are sufficiently hardy to have been derived through Japan. We have, moreover, a direct tradition (mentioned by Humboldt) that the culture in Mexico of both cotton and maize was taught by the Toltecas.

Cloth dyed blue, apparently with *indigo*, was also found at Pachicamac. The manufacture of indigo could not have been derived through the Polynesian islands. It should also be observed that there are indigenous species of indigo plant in America.

Specimens of the small-fruited variety of *gourd*, which is still common in the market of Lima, were exhumed at the same ancient cemetery. I did not see the plant growing. The Lagenaria vulgaris is a hardy tropical plant, that could have been introduced either through Japan or through the Polynesian islands.

The *sweet potato* (Convolvulus batatas) is equally hardy in its constitution, and could have been introduced either by the route of Japan or that of the Polynesian islands.—The Portuguese Pilot (who set out in A. D. 1520 on his voyages to the colony at St. Thomas, in the Gulf of Guinea) speaks of this plant, and states that it is called "batata" by the aboriginals of St. Domingo.

The *Capsicum* is sufficiently hardy to have been introduced by the route of Japan;

And so is *Physalis edulis*,

And *Solanum nigrum*: though the most convenient route for the three last-named plants is that of the Polynesian islands.

On the other hand, the *banana* is too strictly tropical in its

constitution to have been derived through Japan. The two American varieties, it may be observed, were not seen at the Polynesian islands.

The *Carica papaya* likewise requires a tropical route ; and it could have been conveniently introduced through the Polynesian islands :

The same remark will apply to the *cocoa palm.*—I am not sure that this plant is of aboriginal introduction ; but Oviedo (who was personally acquainted with some of the companions of Columbus, and who commenced writing in A. D. 1525) mentions the presence of cocoa palms in the West Indies.

Ageratum conyzoides, perhaps an aboriginal weed, likewise requires a tropical route for its introduction.

b. *Animals and Plants recently introduced into Northwest America.*

I shall mention, in the first place, the animals and plants which have been fairly imparted, and have attached themselves to the aboriginal tribes of Oregon :

Horses were found by Lewis and Clarke among the tribes of Interior Oregon, having been derived from the Spaniards of New Mexico.—It seems, therefore, the more remarkable that horses have not been acquired by the wild tribes of the Sacramento.

Helianthus, an annual species, and the only weed I saw growing around the native villages of Interior Oregon, was perhaps aboriginally introduced from the southward.—I met with the same plant, however, at the California settlements.

Pectocarya penicillata (a Boragineous plant) was seen on the north branch of the Columbia River, growing as a weed around Fort Okonagan, a post where the soil is not cultivated. The plant may have accompanied the cattle from the Lower Columbia and its history seems connected with that of the preceding plant. Moreover, these two were the only introduced plants I could discover growing around Fort Okonagan.

Solanum tuberosum. The French Catholic missionaries and the Hudson Bay Company have imparted the cultivation of the potato to the Chinooks of the Straits of De Fuca. The potato was also seen cultivated at one native village on the north branch of the Columbia.

The other plants and animals introduced by the Hudson Bay Company were found to be confined to the immediate environs of Forts Colville, Nisqually, and Vancouver, and to the agricultural settlements on the Willamette and Cowalitz. The plants under cultivation at the two first-named places were few, and were not specially noted ; but at Vancouver an extensive and well-conducted garden had been established for many years. The original

packages of seeds were brought, some by sea, but chiefly overland from Montreal.

Bullocks were introduced into Oregon some years prior to our visit.

Sheep were of somewhat later introduction.

Chenopodium album, already mentioned as perhaps an aboriginal weed.—Is yet, possibly, of European introduction. It was seen in the cultivated ground at Forts Nisqually and Colville, and, unlike the following plants, widely spread over the adjoining prairie.

Plantago major, also mentioned as perhaps an aboriginal weed. —The plant was seen naturalised in pathways at Fort Colville.

Polygonum aviculare, also mentioned as perhaps an aboriginal weed, and observed growing in beds around the Chinook villages. —The plant was seen naturalised around Fort Colville ; but at Fort Nisqually I met with the broad-leafed variety only.

Polygonum nigrum was seen established in the cultivated ground at Fort Colville.

Anthemis cotula had become an abundant weed around Fort Colville.

Amaranthus, a weed in the cultivated ground at Fort Colville. A species, perhaps the same, was seen at the Kooskoosky station.

Capsella bursa-pastoris, a weed at Fort Colville. A single specimen was found at Fort Nisqually.

Sonchus oleraceus, a weed in the garden at Fort Nisqually.

Poa annua, observed both at Fort Nisqually and at some of the posts in the Interior.

Triticum sativum, wheat, hardly succeeds at Fort Nisqually ; but it was said to be cultivated to some extent on the Willamette and Cowalitz. Three or four varieties were seen at Fort Colville, whence they had been transferred to the Kooskoosky station.

Hordeum vulgare, barley ; together with

Avena sativa, oats ; and

Secale cereale, rye, were observed by Mr. Brackenridge under cultivation at Fort Vancouver.

Pyrus malus, the apple, was said to produce abundantly at Fort Vancouver. But fruit-trees could hardly be cultivated at Fort Colville, on account of the ravages of the small marmot.

Pyrus communis, the pear. The tree was seen by Mr. Brackenridge under cultivation in the garden at Fort Vancouver, together with

Vitis vinifera, the European grape ;

Amygdalus Persica, the peach ;

Armeniaca vulgaris, the apricot ;

Prunus domestica, the European plum ;

Prunus cerasus, the European or the common garden cherry ;

Fragaria, several imported varieties of the strawberry ;
Ribes rubrum, the garden currant ;
Ribes grossularia, the European, or the common garden gooseberry ;
Cucumis sativus, the common cucumber ;
Cucumis melo, the muskmelon ;
Cucurbita melopepo, the squash ;
Pisum sativum, the garden pea ;
Phaseolus, the common kidney bean ;
Solanum melongena, the egg-plant, or aubergine ; together with
Beta vulgaris, the beet ;
Apium dulce, the celery ;
Petroselinum sativum, the parsley ;
Allium cepa, the onion ; and all the other common garden vegetables.

At the KOOSKOOSKY mission station, irrigation is necessary to agriculture ; and in all probability the seeds of some of the plants which were seen cultivated and naturalised had been derived from the United States. The following is by no means a complete list :

Zea Mays, Indian corn, which has always failed in the vicinity of the coast, was found to be cultivated with success at the Kooskoosky station.

Daucus carota, the carrot, was seen under cultivation ; together with
Lycopersicum esculentum, the tomato ;
Brassica oleracea, the cabbage ; and various other garden vegetables.

Bidens trifida had become an abundant weed ; growing with
Campanula amplexicaulis, in the irrigated and cultivated ground ; and accompanied by
Polygonum persicaria : and these three plants were not met with in any other part of Oregon.

At the Bay of SAN FRANCISCO the introduced plants had arrived by a third route, that of Mexico ; and a variety of species (mostly European) have become naturalised, notwithstanding that cultivation is on a very limited scale. I shall notice only the five following :

Mirabilis jalapa, seen cultivated as an ornamental plant.

Anagallis arvensis, naturalised abundantly, but not extending beyond the environs of the Bay.

Erodium, probably a European species, and introduced with cattle. Perhaps the same with one seen naturalised at the Kooskoosky station, and also in Chili.

Avena sativa, the common oat, has now overspread the environs of the Bay, in some instances taking exclusive possession of the

prairie. Mr. Brackenridge, in coming with the land-party from Oregon, "first met with the oat in the valley of the Sacramento, about one hundred and fifty miles above tide-water."

Mollugo verticillata was found by Mr. Brackenridge on the Upper Sacramento, in the vicinity of the Shasty Mountain.

CHAPTER XXII.

INTRODUCED ANIMALS AND PLANTS OF THE ISLANDS OF THE PACIFIC.

FROM the rapid changes taking place at these islands, through commercial intercourse, it is daily becoming more difficult to distinguish the plants which were aboriginally introduced. And observations, therefore, which at the present day seem trivial, may prove of importance hereafter.

Notwithstanding many doubtful points that remain to be settled through the etymology of the native names, it is sufficiently clear, that in the aboriginal condition of the islands of the Pacific, the foreign animals and plants, were invariably derived from the West.

a. *Animals and Plants of Aboriginal Introduction.*

Three of our own familiar domestic animals, were known throughout Tropical Polynesia prior to the visits of Europeans; and they will be first enumerated:

The *pig*, thriving amid the rank vegetation of the rocky groups;

The *dog*, frequent; though the rearing on vegetable food, of a particular breed for culinary purposes, seems peculiar to the Hawaiian Islands;

And the *domestic fowl*, likewise abundant in the rocky groups. —The above three animals are absent from the more secluded coral islands; but they are known at the extensive Tarawan or Kingsmill Group, where they are regarded in a somewhat peculiar light. According to Mr. Rich, the Tarawan Islanders "have dogs; but will not eat fowls, which they keep in cages for fighting; neither will they raise pigs, on account of the dirt; and they killed the goats landed from a whale ship."

There are, however, uninvited attendants on human migrations; such as a small species of *rat*, whose presence throughout Tropical Polynesia seems nearly universal. On some of the more remote

coral islets, the presence of this animal proved to be the only remaining evidence of the visits of man.

On the other hand, the house *fly*, which so abounds at certain coral islands, was uniformly absent from the uninhabited ones. Various other *insects* have doubtless been transferred from island to island by human means.

This, too, was probably the case with the *lizards* (Scincidæ); for the agency of drift-wood seems insufficient to account for their universal presence.

With regard to the plants, I have already noticed the few species introduced into the CORAL ISLANDS; but as the same are equally found on the rocky groups, the following arrangement would be incomplete without repeating the enumeration:

Thespesia populnea, was seen by Mr. Rich at the Tarawan Group.

Morinda citrifolia, growing on most of the coral islands visited.

Gardenia Taitensis, a beautiful tree, the flowers of which are used by the Taheitians for decorating their hair. It was seen by Mr. Rich at the Union Group.

Cordia sebestena, observed at Wake's Island, and at the Phœnix Group; and, to all appearance, spontaneously disseminated. Mr. Rich found the tree at the Union and the Tarawan Groups.

Hernandia sonora, was seen by Mr. Rich at the Union Group; raised by the natives from a drifted seed.

Borassus flabelliformis? the Fan palm was seen by Mr. Rich at the Union Group.

Cocos nucifera, the Cocoa palm. Notwithstanding that the fruit is well-adapted for floating uninjured over a wide expanse, I have never met with an instance of the cocoa palm having spontaneously extended itself from island to island.—Two distinct varieties are recognised at the Feejee Islands.

Pandanus utilis, abundant, and perhaps spontaneously disseminated on the coral islands: but it was seen planted, and also naturalised or native, on the rocky groups.—A species apparently different, and unquestionably native, grows on the mountain-tops of Tutuila, in the Samoan Group.

Colocasia esculenta, the taro, was found by Messrs. Rich and Hale at the Vaitupan and the Tarawan Groups.—The taro is an important esculent throughout the rocky groups, and particularly so at the Hawaiian Islands. In the dry method of culture practised on the mountains of Hawaii, the roots were observed by Mr. Rich to be protected by a covering of fern-leaves. The cultivation of taro is hardly a process of multiplication; for the crown of the root is perpetually replanted.

Colocasia macrorhiza, was found by Messrs. Rich and Hale at the Vaitupan and the Tarawan Groups.—As the plant endures

for a series of years, the roots serve at some of the rocky groups as a security against famine.

Proceeding now to the rocky groups, I shall commence at the furthest remove from the source of the introduced plants; the number of which will be found to increase regularly on advancing south and west. A similar increase takes place in the number of cultivated varieties; and even to some extent in the good quality of the product. With the exception of the Gardenia, Hernandia, and Borassus, the plants above enumerated, were all observed at the HAWAIIAN ISLANDS; together with the following in addition:

Gossypium religiosum? A shrub, naturalised around the cabins of the natives.—At Taheiti, the cotton is made into wicks, for burning cocoa-nut oil.

Sida, a double-flowered variety of an indigenous species, cultivated for decorating the hair.

Cardiospermum helicacabum, a weed in cultivated ground and abandoned clearings: as also at the central groups.

Oxalis repens, a weed, growing around the native cabins: as also at the central groups.

Tephrosia piscatoria, commonly naturalised in dry open grounds: as also throughout the central groups.

Lablab vulgaris, the white-flowered species, naturalised in one or two localities.—It was seen growing around the native houses at the Feejee Islands.

Phaseolus amœnus, growing in abandoned clearings.

Agati, a species apparently indigenous; the flowers smaller than in A. grandiflora, and varying from scarlet to yellow.

Jussiœa angustifolia? growing in wet grounds, and apparently indigenous; but possibly introduced with taro culture.

Jambosa Malaccensis, the red-fruited species, abundantly naturalised in elevated situations.

Lagenaria vulgaris, the gourd: the large-fruited variety was not met with at the other groups.

Hydrocotyle, perhaps introduced with taro culture; and possibly distinct from the species growing around habitations at the central groups.

Geophila reniformis, in pathways, and in woods devoid of underbrush, not far from clearings. It grows in similar situations at the central groups.

Ageratum conyzoides, abundantly naturalised in open grounds: as also at the central groups.

Adenostema viscosum, a weed in abandoned clearings: as also at the central groups.

Convolvulus batatas, forming in some districts the principal object of cultivation.—By an exception to the general rule, the sweet potato is rare at the Feejee Islands, where it was said to

occur on one of the outer islets; and it seems probable that it was introduced there by Polynesians. Several marked varieties are cultivated in the Polynesian groups.

Ocymum, a small species, naturalised in abandoned clearings, and in dry open grounds.

Physalis angulata? a smooth, low, and inconspicuous species, naturalised in waste grounds.

Physalis edulis, abundantly naturalised; as also at the other groups; and having a Polynesian name, which is nearly identical at Taheiti and at the Hawaiian Islands. The genus Physalis, moreover, seems foreign to the natural vegetation.

Capsicum frutescens, cultivated: as also at the central groups.

Solanum nigrum, abundantly naturalised: as also throughout the central groups.

Pisonia, a small tree, rather reserved than planted; and which was not seen at the other groups. The Hawaiian bird-lime was said to be obtained from it.

Polygonum, a species (near P. persicaria), growing in wet grounds, and perhaps introduced; for it does not seem to accord with the natural vegetation.

Carica papaya, cultivated. The fruit is a favourite esculent with the Polynesians and Feejeeans.

Ricinus communis, abundantly naturalised: as also at the central groups.—At the Feejee Islands, the seeds strung together, are used for candles.

Aleurites triloba, abundantly naturalised; and the seeds used for candles by the Hawaiians; being substituted for the seeds of the Ricinus. The tree grows less luxuriantly than at the central groups, where it seems to be indigenous.

Piper methysticum, the kava pepper, was seen clandestinely cultivated. At Taheiti, a native species of pepper was said to be substituted for making kava.

Broussonetia, the paper mulberry, was seen cultivated.—At the central groups, the bark of some indigenous woody Urticeæ was found to be used for making "tapa," or native cloth.

Artocarpus incisa, the bread-fruit.—A second variety (or possibly species, having the leaves more entire and producing seeds,) occurs at the Samoa and Feejee Islands; and at the latter group, numerous secondary varieties are distinguished. The Samoan mode of preparing bread-fruit, for storing in the ground, is said to differ from the Taheitian.

Zingiber zerumbet, growing, seemingly wild, on the lower portion of the mountains: as also at the Samoa and the Feejee Islands.

Curcuma longa, the turmeric. The powdered root, said to have been formerly used as an unguent, according to the custom which

still prevails at the central groups.—At the Feejee Islands I met with the living plant in wild situations.

Musa sapientum, the banana, abundantly cultivated as well as naturalised, on the lower portion of the mountains. But extending to the coast in the central groups.—The Philippines being excepted, we met with the greatest number of varieties of the banana at Samoa; and among them one whose small fruit uniformly contained seeds.

Dioscorea pentaphylla, the kidney-rooted yam, growing in wild situations; and the root, reported to be eaten in times of scarcity. —D. pentaphylla was seen likewise at the central groups; and at the Feejee Islands, it is called "kawai," and is sometimes cultivated.

Dioscorea bulbifera, abundantly naturalised in neglected clearings: as also at the central groups. The root was not considered edible.

Tacca pinnatifida, abundantly naturalised; as also at the central groups; and at Samoa, it is, besides, regularly cultivated. The art of preparing arrow-root from it, is aboriginal with the Polynesians and Feejeeans.—The Tacca was seen in a seemingly wild state at the Mangsi Islands; and again at Zanzibar.

Dracœna terminalis, the "Ti" plant. The sweet-rooted variety is the only one known at the Hawaiian Islands, where it is abundantly naturalised on the inferior portion of the mountains. —At Taheiti I met with only the farinaceous-rooted and edible variety. But some twenty varieties are regularly cultivated at the Samoan Islands; where, also, use is made of the leaves for dress.

Commelina, one or more species, growing in cultivated ground; apparently the same that were seen at the central groups.

Panicum, a species (near P. colonum) that did not appear to be truly indigenous: but it was not met with at the other groups.

Rhapis acicularis, abundant in the vicinity of habitations: as also at the central groups. The plant, in all probability, had been transported by the natives, through the adhering of the seeds.

Cenchrus calyculatus, frequent; as also at the central groups; and probably transported, like the preceding plant, through the adhering of the seeds.

Digitaria sanguinale, frequent in cultivated ground: as also at the other groups.

Saccharum officinale, the sugar-cane, aboriginally cultivated for the sake of the crude stems; but not seen naturalised.—It is, however, abundantly naturalised on the mountains of Taheiti; where it has become so diminutive, that it was not at first recognised; until occasional larger stems were found to possess a distinct saccharine flavour.—At the Feejee Islands, the small

type has overrun extensive unwooded districts; and the stems (here uniform in size) are used for architectural purposes: while the large-stemmed cultivated variety seems to excel in sweetness. —In the humid climate of the Samoan Islands, the sugar-cane is principally cultivated for thatching.

Bambos arundinacea, the bamboo, as throughout the Pacific Islands, was seen only in wild situations. The general use of the stems for water-buckets, suggests the probable mode of its introduction.

Kyllingia monocephala, frequent in wet places; as also at the central groups; and probably introduced with taro culture.

** *Marsilea*, growing likewise in wet places; and perhaps introduced with taro culture.

All the plants thus far enumerated were equally found at TAHEITI; with the exception of the Thespesia, Hernandia, Borassus, Sida, Lablab vulgaris, Agati, Jussiæa, Hydrocotyle, Ocymum, Pisonia, Piper methysticum, Zingiber zerumbet, and Panicum; together with Commelina, and Ricinus, two plants, whose presence may have been simply overlooked. On the other hand, the following additional plants made their appearance at Taheiti:

Cardamine sarmentosa, a weed in pathways: as also at the more western groups.

Urena lobata, a weed in cultivated ground and neglected clearings: as also at the more western groups.

Hibiscus rosa-Sinensis, a small and beautiful tree, sometimes seen in wild situations; where, however, it had been evidently planted.

Hibiscus abelmoschus, growing as a weed in neglected clearings.

Sida, one or more humble and inconspicuous species, naturalised in cultivated ground.

Colubrina Asiatica, growing on the borders of clearings, and, perhaps, really native.

Inocarpus edulis, in all probability an indigenous tree; but in some instances it appeared to have been planted.

Spondias dulcis, the vi-apple, frequent; as likewise at Samoa; while at the Feejee Islands, I heard of it in but one locality.—The Spondias and the Erythrina were the only deciduous trees observed in central Polynesia.

Desmodium purpureum, a weed in neglected clearings: as also at the more western groups.

Pachyrhizus? a sort of bean, cultivated (for the sake of the edible yam-like roots) at the Island of Metia, near Taheiti.—I heard of the same plant at Tongataboo.

Erythrina, a fine tree, naturalised. I did not learn whether the wood is used for the outriggers; like that of the E. monosperma at the Hawaiian Islands.

Poinciana, a favourite ornamental shrub, growing around the cabins of the natives.—At Samoa it was called "meleke;" but it was not seen at the Feejee Islands.

Abrus precatorius, confined chiefly to the sea-coast, and, perhaps, really native.—The seeds are used at the Feejee Islands for covering oracles and other sacred objects.

Acacia, a tree somewhat resembling the Tamarind, seen in one or two instances; and apparently planted.—At the Feejee Islands it is clearly indigenous.

Mimosa pudica, the sensitive plant, abundantly naturalised: as also at the more western groups.

Melastoma Malabathrica, growing in natural openings and in neglected clearings; and, perhaps, really native.—Also, in similar situations, at the more western groups.

Barringtonia speciosa, clearly indigenous.—But at the Feejee Islands sometimes reserved, if not actually planted; for the sake of the fruit, which is used for seine-corks. The same use of the fruit was observed at Sooloo.

Cucurbita aurantiaca, growing on the borders of the mountain-forest, and apparently indigenous. It was not seen at the other groups.

Conyza, one or more species common in open ground, and apparently introduced.

Myriogyne minuta, an inconspicuous weed, growing around the cabins of the natives.

Bidens odorata? frequent in all open ground.

Siegesbeckia orientalis, a frequent weed in all open ground: as also at the more western groups.

Cerbera, a species having white bracts, planted for ornament.

Ocymum sanctum? planted around the cabins of the natives, and observed in one instance on a grave.

Leucas decem-dentatus, a common weed in cultivated ground: as also at the more western groups.

Lindernia? a frequent weed in pathways: as also at the more western groups.

Solanum repandum, occasionally met with, though its use had become obsolete both here and at Samoa. At the Feejee Islands this plant is regularly cultivated; and the fruit, when divested of its hairy covering, has a sprightly agreeable flavour.

Boerhaavia procumbens, an herbaceous species, having capillary branches; naturalised in cultivated ground.

Desmochœta, in woods not far from clearings; but to all appearance really indigenous.

Achyranthes aspera, a common weed in cultivated ground: as also at the more western groups.

Amaranthus cruentus? a weed in cultivated ground.

Ficus tinctoria, a tree, planted near the cabins of the natives.—A species of Ficus, perhaps the same, was found by Mr. Rich at the Union and Tarawan coral groups.

Casuarina equisetifolia, the club-wood ; one or two groves met with ; but, in all probability, the tree had been introduced from the westward.

Canna Indica, cultivated for ornament.—According to Mr. Rich, this plant is naturalised at the Samoan Islands.

Musa, a species distinguished by its simple floral spike, is abundantly naturalised in the mountain woods ; and in one remote situation I found it accompanied by the common banana, (and it should be observed, that the Taheitians, unlike the other islanders, have been in the habit of disseminating useful plants through the forest.) The "fehi," or the Taheitian variety of the above Musa, was found to be replaced at the Samoan Islands by the "puputa ;" and this second variety did not extend beyond the borders of clearings. The "puputa" was also seen by Mr. Brackenridge, at Ovolau, in the Feejee Islands.

Dioscorea alata, the common yam, rarely seen.—It is more frequent at Samoa ; and at the Feejee Islands it forms the main support of the population.

Digitaria ciliaris, a hairy species, frequent in cultivated ground, as also at the western groups.

Paspalum, one or more species, growing in open ground, and perhaps introduced.

Eleusine Indica, a frequent weed in cultivated ground, as also at the more western groups.

Mariscus paniceus, growing in cultivated ground, and apparently introduced.

All the plants thus far enumerated were seen at the SAMOAN ISLANDS, with the exception of the following : the Jussiæa, Pisonia, Panicum, Sida, Phaseolus amœnus, Lablab, Pachyrhizus ?, Agati, Acacia, Cucurbita aurantiaca, Ficus tinctoria ?, and Dioscorea pentaphylla : together with the eight following plants, whose presence I may have simply omitted to record : the Lagenaria, Ageratum, Conyza, Siegesbeckia, Polygonum, Ricinus, Cenchrus, and Marsilea.—On the other hand, the following additional plants made their appearance at the Samoan Islands :

Mallea Rohrii, a small tree, planted near habitations, but somewhat rare. It was seen also at Tongataboo, but not elsewhere.

Citrus torosa, a species naturalised, having the petiole as broad as the leaf, and the fruit outwardly resembling the orange, but excessively acid, and two-thirds rind. According to Mr. Rich, the natives make use of the fruit in washing their hair.—At the Feejee Islands, the tree in some instances had been evidently planted. The species is probably identical with the "wild orange

suitable for making lemonade," found by Labillardiere at Waygiou; and it agrees with the description of the C. torosa of Blanco's Flora of the Philippines.

Evodia hortensis, a favourite plant in the gardens of the natives. It was said to be used for scenting cocoa-nut oil.

Mimosa scandens, in woods near the coast, and, to all appearance, really native. Growing also in similar situations at the Feejee Islands.

Portulaca, a species (near P. oleracea, but smaller) naturalised around the cabins of the natives.

Mussœnda frondosa, naturalised, or perhaps really native.—This shrub was seen growing by the roadside in the interior of Luzon.

Hedyotis paniculata, an herbaceous weed, growing in cultivated ground; also in similar situations at the Feejee Islands.

Verbesina biflora, growing along the coast, and apparently indigenous; as also at the Feejee Islands; and observed in one instance in the environs of Manila.

Cotula coronopifolia, a weed growing around the cabins of the natives, but somewhat rare.

Justicia purpurea ?, a purple-flowered species, naturalised around the cabins of the natives. At the Feejee Islands it was seen cultivated.

Gratiola ?, a purple-flowered plant, growing in wet places, and apparently indigenous; but possibly introduced with taro culture.

Ricinus ? Tanarius, growing in rich soil, on the borders of clearings, and not far from the coast, and perhaps really indigenous.

Sapium sebiferum ?, growing in similar situations with the preceding plant, and apparently indigenous.

Codiœum variegatum, cultivated as an ornamental plant in the gardens of the natives.—A variety, having the leaves narrow and interrupted, was seen at the Feejee Islands.

Acalypha Caroliniana ?, a weed in cultivated ground.

Euphorbia, a species near E. lathyris, was found growing in cultivated ground.

Ficus, an ornamental tree, (having dark foliage and orange-coloured pea-like fruit,) planted near the cabins of the natives.

Urticac. incert., the Stinging-tree, (which is entirely smooth,) is clearly indigenous in the deep woods of Savaii; but one of these trees was seen at the Feejee Islands, planted near the Levuka mbure-house.

Crinum Asiaticum, naturalised, and according to Mr. Brackenridge, regularly cultivated in the gardens of the natives.

Arum Rumphii, frequent in cultivated ground. According to Mr. Rich, farina is obtained from the root.—Mr. Brackenridge once met with the plant at the Feejee Islands.

Flagellaria, clearly indigenous, both here and at the Feejee Islands. A species, perhaps the same, was seen at Zanzibar.

Panicum, a species having minute florets, frequent in cultivated ground.

Coix lachryma, naturalised in cultivated ground.

Pappophorum alopecuroideum ?, growing in neglected clearings, but somewhat rare.

Rhynchospora, a species growing in wet places, and possibly introduced with taro culture.

All the plants thus far enumerated were equally seen at the FEEJEE ISLANDS, with the exception of the following: the Jussiæa angustifolia ?, Pisonia, Panicum, Sida, Pachyrhizus ?, Agati, Poinciana, Mimosa pudica, Cucurbita aurantiaca, Siegesbeckia, Convolvulus batatas, Amaranthus cruentus ?, Euphorbia, and Ficus tinctoria ?; together with Lagenaria, and Dioscorea bulbifera, two plants which may have been overlooked.—On the other hand, the following additional plants made their appearance at the Feejee Islands:

Urena, a second species, growing in cultivated ground, but rare.

Hibiscus, a species (near H. esculentus) cultivated, but, according to Mr. Brackenridge, for the sake of the leaves only.

Citrus decumana, the shaddock; abundantly cultivated. The tree was seen also at Tongataboo.

Euphoria ?, a tree planted around houses. The ripe fruit reported to be sugary and agreeable.

Canarium ?, another tree, likewise planted around houses. The unripe fruit is very acid; but it is sometimes eaten by the natives.

Crotalaria quinquefolia ?, an annual weed, found in a pathway, and in but a single instance. Its coarse herbaceous habit is clearly at variance with the natural vegetation.

Terminalia catappa, a tree planted around the cabins of the natives; it was said, for the sake of the nut.

Caryophyllus, a small tree planted around habitations. I did not meet with it in wild situations; but the species is probably indigenous.

Pharnaceum ?, a weed, growing in the cultivated ground, but rare.

Panax fruticosum, planted in a native garden, near the town of Rewa.

Eclipta, growing in wet ground, but rare; probably introduced with taro culture.

Villarsia, a species common in taro ponds, and possibly introduced.

Labiat. incert., a weed in the cultivated ground.

Solanum, a species cultivated, having edible fruit, which somewhat resembles an orange in form and colour. The plant was

doubtless introduced from the westward; for its herbaceous habit does not accord with the natural vegetation.

Amaranthus tricolor, cultivated and naturalised.

Urticac. incert., a thick-stemmed low tree, growing along the coast, and clearly indigenous. It had been introduced into Tongataboo, where it was seen planted.

Cycas circinalis, growing in wild situations on the mountains of Ovolau, and seen regularly planted at Tongataboo.

Lemna, a species abounding in the taro ponds, and possibly introduced.

Dioscorea aculeata, abundantly cultivated. The root has a tenacious bark, and differs in consistence from the Common Yam. —Roots of the D. aculeata, were seen in the market at Sooloo.

Panicum, a third species, naturalised in the cultivated ground.

Andropogon schœnanthus, the Lemon-grass; planted around the cabins of the natives.

Eleocharis, a species near E. capitatus, frequent in wet places, and possibly introduced with taro culture.*

* A more full account of the localities of the above-mentioned plants will be found in the annexed Table. And in place of adding thereto a column, I will here specify such of the domestic animals and plants of Polyncsia as appear to have been known in EGYPT prior to the voyage of Columbus. I can enumerate only:

The house fly	Solanum nigrum
The domestic fowl	Ricinus communis
The pig	Colocasia esculenta (?)
The domestic dog	Musa sapientum
Cardiospermum helicacabum	Cocos nocifera (the fruit)
Abrus precatorius (the seeds)	Digitaria sanguinale (?)
Lagenaria vulgaris	Eleusine Indica
Eclipta	Coix lachryma
Capsicum frutescens	Saccharum officinale.

TABLE OF OBSERVED LOCALITIES:

Showing further, for each plant, whether it appeared to be native or spontaneously disseminated; whether, when introduced apparently by the hand of man, it had become naturalised or intrusive; and whether, it was seen cultivated only: and also, whether it was traced westward of the limits of the Pacific. The initials of my colleagues, are attached in the absence of personal observation.

	Coral Groups.	Hawaiian Islands.	Taheiti.	Samoa.	Tonga.	Feejee Islands.	East Indies.	Zanzibar.	Bombay.	New Zealand.	S. E. Australia.
Cardamine sarmentosa ...	...	?	intrusive	intrusive	intrusive	intrusive					
Gossypium religiosum?...	...	intrusive	intrusive	intrusive	intrusive	intrusive					
Thespesia populnea	cultiv. R.	cultiv.	...	native	native	native	native	...	cultiv.		
Urena lobata.....	...	...	intrusive	intrusive	intrusive	intrusive	intrusive				
Urena.....	...	...	...	...	...	intrusive					
Hibiscus rosa-Sinensis ...	...	...	cultiv.	cultiv.	...	cultiv.	...	...	cultiv.		
Hibiscus	...	...	...	...	...	cultiv.					
Hibiscus manihot	...	...	intrusive	intrusive	intrusive	intrusive	intrusive				
Sida.....	...	...	intrusive	intrusive	intrusive						
Sida.....	...	cul. & nat.									
Citrus decumana.....	...	...	...	...	cultiv.	cultiv.	cultiv.	...	cultiv.		
Citrus torosa.....	...	...	...	intrusive	...	intrusive	intrus. R.				
Cardiospermum helicacabum	...	intrusive	intrusive	intrusive	intrusive	intrusive					
Euphoria?.....	...	...	...	...	cultiv.	cultiv.					
Mallea Rohrii	...	...	...	cultiv.	cultiv.						
Oxalis repens	...	intrusive	intrusive	intrusive	intrusive	intrusive	intrus. R.	...	...	?	
Evodia hortensis.....	...	...	...	cultiv.	...	cultiv.					
Colubrina Asiatica	...	...	native?	native?	native?	native?	native?				
Inocarpus edulis	...	...	native	native	native	native					
Canarium?	...	...	...	...	...	cultiv.					
Spondias dulcis	...	...	intrusive	intrus.?	cultiv.	"cultiv."					
Tephrosia piscatoria	...	intrusive	intrusive	intrusive	intrusive	intrusive		...	intrusive		
Crotalaria quinquefolia ?	...	...	...	...	...	intrusive					
Agati	...	native									

	Coral Groups.	Hawaiian Islands.	Taheiti.	Samoa.	Tonga.	Feejee Islands.	East Indies.	Zanzibar.	Bombay.	New Zealand.	S. E. Australia.
Desmodium purpureum...	...	...	intrusive	intrusive	...	intrusive					
Lablab vulgaris	...	intrusive	...	...	...	intrusive					
Pachyrhizus ?	...	...	cultiv.	...	?						
Phaseolus amœnus	...	intrusive	intrusive	...	...	native ?					
Erythrina	...	...	intrusive	cultiv.	cultiv.	cul. & int.	cultiv.				
Poinciana	...	...	cultiv.	cultiv.	cultiv.						
Abrus precatorius	...	...	native ?	native ?	native ?	native ?	native ?	native ?	native ?		
Acacia	...	...	cultiv.	...	cultiv.	native					
Mimosa pudica	...	...	intrusive	intrusive	intrusive	...	intrusive				
Entada scandens	...	...	...	native	...	native					
Terminalia catappa	...	...	...	...	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.		
Melastoma Malabathrica	...	...	native ?	native?	...	native ?	native ?				
Jussiæa angustifolia ? ...	...	native ?									
Jambosa Malaccensis ...	...	cul. & int.	cul. & int.	cul. & int.	...	cul. & int.	cultiv.				
Caryophyllus	...	...	...	...	...	cultiv.					
Barringtonia speciosa ...	...	...	native	native	cultiv.	cul. & nat.	native				
Sicyos angulata ?.....	...	?	...	...	...	...	...	...	...	intrusive	intrus. ?
Lagenaria vulgaris.....	...	cultiv.	cultiv.	...	cultiv.	...	cultiv.	cultiv.	?	cultiv.	
Cucurbita aurantiaca.....	...	...	native								
Portulaca	...	...	...	intrusive	...	intrusive					
Pharnaceum ?	...	...	...	...	...	intrusive					
Hydrocotyle	...	iutrus. B.	...	intrusive	intrusive	intrusive					
Panax? fruticosum.....	...	...	...	...	...	cultiv.	...	...	cultiv.		
Morinda citrifolia	native ?	cul. & int.	native ?	native ?	native?	native ?	native				
Gardenia Taitensis.....	cultiv. R.	...	cultiv.	cultiv.	cultiv.						
Mussænda frondosa.....	...	...	...	intrus. ?	...	intrus. ?	intrus. ?				
Geophila reniformis	...	intrus. ?	intrus. ?	intrus. ?	...	intrus. ?					
Hedyotis paniculata	...	...	...	intrusive	intrusive	intrusive					
Ageratum conyzoides.....	...	intrusive	intrusive	...	...	intrusive	...	intrusive	intrusive		
Adenostemma viscosum	...	intrusive	intrusive	intrusive	...	intrusive	intrusive				
Eclipta	...	...	...	...	...	intrusive	intrusive	intrusive	intrusive		
Conyza	...	?	intrusive	...	...	intrusive					
Myriogyne minuta	...	...	intrusive	intrusive	...	intrusive	...	...	...	intrusive	?
Cotula coronopifolia ?.....	...	...	...	intrusive							
Verbesina ? biflora.....	...	...	...	native ?	native ?	native ?	native ?				

	Coral Groups.	Hawaiian Islands.	Taheiti.	Samoa.	Tonga.	Feejee Islands.	East Indies.	Zanzibar.	Bombay.	New Zealand.	S. E. Australia.
Bidens odorata	...	...	intrusive	intrusive	intrusive	intrusive					
Sonchus oleraceus?	...	...	?	...	...	...	...	...	...	intrusive	
Siegesbeckia orientalis	...	...	intrusive	...	intrusive	...	...	...	...	intrusive	?
Cordia sebestena	native	cultiv.	native ?	native ?	...	native ?	native ?				
Cerbera	...	...	cultiv.	cultiv.	...	native ?					
Villarsia	...	...	...	...	...	intrus ?					
Convolvulus batatas	...	cultiv.	cultiv.	cultiv.	...	"cultiv."	cultiv.	cultiv.	cultiv.	cultiv.	
Calystegia sepium ?	...	...	...	...	...	...	...	...	...	native ?	nati c ?
Ocymum sanctum	...	...	cultiv.	cultiv.	...	cultiv.	...	?	?		
Ocymum	...	intrusive	...	intrusive	...	intrusive					
Leucas decem-dentatus	...	...	iutrusive	intrusive	intrusive	intrusive	native ?				
Labiat. (incert.)	...	...	...	...	intrusive	intrusive					
Justicia purpurea ?	...	...	...	intrusive	...	cul. & int.					
Lindernia ?	...	...	intrusive	intrusive	...	intrusive	intrusive				
Gratiola ?	...	...	...	native ?	...	native ?					
Physalis	...	intrusive	intrusive	intrusive	intrusive	intrusive	intrusive				
Physalis edulis	...	intrusive	intrusive	intrusive	intrusive	intrusive	...	...	...	intrusive	
Capsicum frutescens	...	cultiv. R.	cultiv. B.	cultiv. H.	cultiv.	cultiv.	cul. & int.	cultiv.	cultiv.		
Solanum	...	...	...	...	...	cultiv.					
Solanum repandum	...	...	intrusive	intrusive	...	cultiv.					
Solanum nigrum	...	intrusive	intrusive	intrusive	...	intrusive	...	...	...	intrusive	?
Solanum aviculare	...	...	...	...	...	...	...	...	...	native	?
Pisonia	...	cul. & nat.									
Boerhaavia procumbens	...	...	intrusive	intrusive	intrusive	intrusive	...	...	intrusive		
Desmochæta	...	...	native ?	native ?	...	native ?	native ?				
Amaranthus tricolor	...	...	...	...	...	cultiv.					
Amaranthus cruentus?	...	...	intrusive	intrusive	intrusive						
Achyranthes aspera	...	...	intrusive	intrusive	intrusive	intrusive	intrusive				
Polygonum	...	intrus.?	intrus. ?	...	...	...	...	...	...	?	?
Carica papaya	...	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.		
Aleurites triloba	...	intrusive	native ?	native?	cultiv.	native ?					
Hernandia sonora	cultiv. R.	...	...	native	native	native					
Ricinus communis	...	intrusive	...	...	...	intrusive	...	intrusive	intrusive	intrusive	
Ricinus ? Tanarius	...	...	...	native ?	native ?	native ?	native ?				
Sapium sebiferum?	...	...	...	native?	native ?	native ?	native ?	...	...	...	?

	Coral Groups.	Hawaiian Islands.	Tahaiti.	Samoa.	Tonga.	Feejee Islands.	East Indies.	Zanzibar.	Bombay.	New Zealand.	S. E. Australia.
Codiæum variegatum	...	...	...	cultiv.	cultiv.	cultiv.	cultiv.	...	cultiv.		
Acalypha Carolinianа?	...	...	...	intrusive	intrusive	intrusive	intrusive				
Euphorbia	...	...	...	intrusive							
Piper methysticum	...	cultiv.	...	cultiv.	cultiv.	cultiv.					
Ficus	...	...	...	cultiv.	cultiv.	cultiv.					
Ficus tinctoria?	?	...	cultiv.	native		cultiv.					
Urticac. (incert.)	...	...	...	...	...	native					
Urticac. (incert.)	...	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.	?				
Broussonetia papyrifera	...	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.					
Artocarpus incisa	...	...	...	cultiv.	...	cultiv.	cultiv.				
Artocarpus incisa (var.)	...	...	intrusive	intrusive	cultiv.	intrusive	native ?	intrusive			
Casuarina equisetifolia	...	...	...	...	cultiv.	cultiv.					
Cycas circinalis	...	...	...	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.			
Borassus flabelliformis	cultiv. R.	...	cultiv.	cultiv.	cultiv.	intrusive	...	...	...		?
Cocos nucifera	cultiv.	cultiv.	...	...	...	cultiv.	cultiv.				
Lemna	...	...	cultiv.	cultiv.	cultiv.	intrusive	intrusive				
Canna Indica	...	...	...	intrusive	intrusive	intrusive					
Zingiber zerumbet	...	intrusive	?	intrusive	...	cultiv.?	cultiv.				
Curcuma longa	...	...	intrusive	cultiv.?	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.		
Musa	...	cul. & int.	cul. & int.	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.			
Musa sapientum	...	...	...	cul. & int.	cultiv.	cultiv.	cultiv.		cultiv.		
Crinum Asiaticum	...	...	cultiv.	cultiv.	...	cultiv.	cultiv.	cultiv.			
Dioscorea alata	...	...	...	...	...	cultiv.	cultiv.				
Dioscorea aculeata	...	intrusive	intrusive	intrusive	intrusive	intrusive	native ?	intrusive			
Dioscorea pentaphylla	...	?	intrusive	intrusive	intrusive	intrusive	cultiv.				
Dioscorea bulbifera	...	intrusive	intrusive	intrusive	intrusive	cul. & int.					
Taeca pinnatifida	...	intrusive	intrusive	intrusive	cultiv.	cul. & nat.	intrusive				
Dracæna terminalis	native ?	cul. & int.	cul. & nat.	cul. & nat.	cul. & nat.	intrusive					
Pandanus utilis	...	intrusive	...	intrusive	...	intrus. B.					
Commelina	...	...	...	intrusive	...	cultiv.	cultiv.	cultiv.	...	cultiv.	
Arum Rumphii	cultiv. R.	cultiv.	cultiv.	cultiv.	cultiv.	cultiv.					
Colocasia esculenta	cultiv. R.	cultiv.	...	native	intrusive	native	native	native ?			
Colocasia macrorhiza	...	...	?	intrusive	intrusive	intrusive					
Flagellaria	...										
Panicum	...										

	Coral Groups.	Hawaiian Islands.	Taheiti.	Samoa.	Tonga.	Feejee Islands.	East Indies.	Zanzibar.	Bombay.	New Zealand.	S. E. Australia
Panicum	...	intrusive			intrusive	intrusive					
Panicum	...	...	...	...	intrusive	intrusive					
Digitaria ciliaris	...	...	intrusive	intrusive	intrusive	intrusive					
Digitaria sanguinale	...	intrusive	intrusive	intrusive	intrusive	...	intrusive	...	...	intrusive	
Cenchrus calyculatus	...	intrusive	intrusive	...	intrusive	intrusive					
Rhapis acicularis	...	intrusive	intrusive	intrusive	intrusive	intrusive	intrusive				
Andropogon? schœnanthus	...	...	...	...	...	cul. & int.					
Cynodon dactylon	...	intrusive	...	...	...	...	...	...	native ?		
Paspalum	...	...	native ?	native ?	native ?	native ?	...	...	...	native ?	
Phalaris Canariensis	...	...	...	...	...	...	...	...	...	native ?	
Coix lachryma	...	...	...	intrusive	intrusive	intrusive					
Eleusine Indica	...	...	intrusive	intrusive	intrusive	?					
Heteropogon	...	native	...	...	...	native					
Saccharum officinale	...	cultiv.	cul. & int.	cultiv.	cul. & int.	cul. & int.	cultiv.	cultiv.	cultiv.		
Bambos arundinacea	...	intrusive	intrusive	intrusive	...	intrusive	cultiv.	...	cultiv.		
Pappophorum alopecuroid?	...	...	...	intrusive	...	intrusive	intrusive				
Orthopogon	...	...	native	native	native						
Orthopogon	...	...	...	...	native	native					
Cyperus	...	...	intrus ?	intrus. ?	...	intrus. ?					
Rhynchospora	...	...	...	intrus. ?	...	intrus. ?					
Mariscus paniceus	...	...	intrusive	intrusive	...	intrusive					
Kyllingia monocephala	...	intrusive	intrusive	intrusive	...	intrusive	native ?				
Eleocharis	...	...	...	...	?	intrus. ?	?				
Marsilea	...	intrus ?	intrus ?	...	...	intrus. ?					

Some of the plants enumerated in the NEW ZEALAND column are not Tropical productions (like those generally accompanying the Polynesians), but they seem rather to belong to Northern climates, and yet they were found already in New Zealand by Cook and Forster. A careful examination into the facts, and a comparison of specimens, will doubtless explain the seeming discrepancy with the laws of botanical geography. The plants referred to are:

Sonchus oleraceus, observed to be disseminated throughout the Interior. I have had occasion to remark, both within and without the Tropics, that this plant is one of the first to extend itself over the new countries in which it obtains foothold.

Sicyos angulata, frequent around the native villages. The leaves are sometimes boiled for greens; but I am not sure that this custom is aboriginal.

Calystegia sepium, growing apparently wild on the borders of openings, and observed to be disseminated throughout the Interior.

Phalaris Canariensis, likewise observed to be disseminated throughout the open country.

The natives of AUSTRALIA being for the most part devoid of clothing, and possessing very few manufactures, have contributed perhaps less than any other branch of the human family to the dispersion of seeds and plants. Moreover, if plants have been aboriginally introduced into Australia; this has been done in all probability by visitors. Indeed, the Northern coast is known to have been frequented for many centuries by Malay tribes, and even by Chinese; and it does not seem probable that the Eastern coast has altogether escaped accidental visits from Papuans and Polynesians. In the above Table of localities, the Australian column will be found nearly blank; and the species most deserving of inquiry, are reduced to the following:—

Siegesbeckia, observed growing on the flats of the Hunter River. The specimens have not been compared with Polynesian.

Sapium, found by Mr. Rich in the agricultural district of Illawara. The specimens have not been compared with Polynesian.

Calystegia sepium, observed only in wild situations: as in New Zealand.

Sicyos angulata, growing in wild situations on the Upper Hunter: and as already mentioned in New Zealand.

Solanum aviculare, Forst. A naturalised weed, observed in the environs of Sydney, and also on the Upper Hunter. At New Zealand it becomes a tall shrub, and forms submaritime

thickets, which harmonise with the natural vegetation; and, although the only known example of the family in the New Zealand flora, it appears to be really indigenous.

b. *Animals and Plants of European Introduction.*

Within the past century, and for the most part within the memory of persons now living, a variety of animals and plants, have been introduced into the islands of the Pacific in European and American vessels:—

The *bullock* was carried from Taheiti to the Samoan and Feejee Groups, a short time prior to our visit. At the Hawaiian Islands the animal has run wild for many years on the upper portion of Mauna Kea.

The *horse* has been introduced into Taheiti, Samoa, and the Hawaiian Islands; but at the time of our visit it had not reached the Feejee Group.

The *goat* has run wild at Taheiti, at the Hawaiian Islands, and at Ovolau in the Feejee Group, and it has recently been carried to Samoa.

The *sheep* seems to have become permanently established the Hawaiian Islands; but at none of the other Tropical groups.

The *cat* was seen at Taheiti, and at Tongataboo. It has run wild on Hawaii, and likewise, according to Mr. Rich, at Samoa, in the highlands of Upolu; "where it has nearly exterminated a remarkable bird, allied to the ground-dove."

The *mouse* occurs on those islands which have been most frequented by Europeans; and it has run wild at the Hawaiian Group.

The *turkey* is now abundant at the Hawaiian Islands.

The *Guinea-fowl*, was seen at the Hawaiian Islands.

The *common duck* has been introduced into Samoa; and likewise into the Hawaiian Islands.

The *musk duck* was seen at the Hawaiian Islands.

The domestic *pigeon* has been introduced into Taheiti, and into the Feejee Group.

We were informed at the Hawaiian Islands that the *centipede* was "introduced five years previously from Mazatlan." It has greatly multiplied at Honolulu, and during our visit it made its first appearance on Maui.

The house *scorpion* likewise abounds at Honolulu; and its introduction was equally attributed to vessels from Mazatlan. The other Polynesian groups remain free from the above two pests.

The natives of the Hawaiian Islands attributed the introduction of the *mosquito* to the same quarter; and we obtained

evidence of the possibility of such an occurrence, in the larva continuing on ship-board for many days after we left Honolulu. One or more native species of mosquito were observed at the other Polynesian groups.

In the following list of the plants, I have omitted those introduced direct from Europe into Australia and New Zealand, and in other respects, the enumeration is by no means complete :—

Anona squamosa, cultivated by the missionaries at Taheiti, Samoa, and Tongataboo. It was also seen at Sidney, where, however it has not produced fruit.

Brassica rapa, the turnip, naturalised at Taheiti, at Tongataboo, at the Feejee Islands, and in New Zealand. It was seen under cultivation in Australia and in Peru.

Brassica oleracea, the cabbage, naturalised at the Hawaiian Islands, at Taheiti, at Tongataboo, and at New Zealand ; and at the latter place it grows tall and suffruticose, with scattered coriaceous leaves, as if partaking of the surrounding perennial vegetation. The cabbage was found by Dr. Holmes at the Auckland Islands. And it was also seen naturalised in Peru and in Australia.

Senebiera didyma, a weed in the outskirts of the Hawaiian towns, and probably introduced by the way of Mexico.

Cleome pentaphylla, a weed at Taheiti, and probably derived from Tropical America.

Cleome spinosa, a weed at the Hawaiian Islands, and likewise in all probability derived from Tropical America.

Argemone Mexicana, naturalised at the Hawaiian Islands.

Oxalis Dieppe, a weed from the Mexican coast, naturalised at Hilo, on Hawaii.

Gossypium herbaceum, naturalised at the Hawaiian Islands.

Urena lobata, already noticed, as of aboriginal introduction in Polynesia. A species, perhaps the same, has become a weed in the environs of Rio Janeiro.

Bixa orellana, the Arnotto, is now cultivated at the Hawaiian Islands ; and, according to Mr. Rich, at Tongataboo. The Arnotto was also seen in the East Indies, at Zanzibar, at Rio Janeiro and in Peru.

Tribulus, a species, perhaps from Mexico, growing in arid situations, in the vicinity of the Hawaiian towns.

Melia azederach, said to have been "brought by the Vincennes on a former cruise from the East Indies to the Hawaiian Islands." The tree was also seen at Taheiti.

Citrus aurantium, the orange, is now cultivated at the Hawaiian Islands, at Taheiti, and at Samoa ; and the fruit was seen in one instance at the Feejee Islands.

Citrus, the lemon, is now cultivated at Taheiti and at Samoa.

And the rough-skinned variety is so abundant at the Feejee Islands that I have had doubts as to its alleged European introduction; the question may probably be decided by the etymology of the name given to the plant by the natives.

Citrus limonum, the lime, was seen cultivated at the Hawaiian Islands, at Taheiti, and at Tongataboo; and a single tree was reported to exist at Samoa, the time and mode of its introduction being uncertain.

Mangifera Indica, the mango, planted at the Hawaiian Islands; but at the time of our visit the trees were not full grown.

Cassia occidentalis, naturalised at the Hawaiian Islands, at Taheiti, and at Samoa; and it was seen regularly planted at Tongataboo.

Cassia tora, naturalised at Taheiti.

Cassia scandens, cultivated at Oahu, in the gardens of the resident Whites.

Vachellia, apparently the Chilian species introduced into Taheiti.

Indigofera, a shrubby species, naturalised at the Hawaiian Islands and at Taheiti, and planted by the missionaries at Samoa. The same species, perhaps, was seen in Peru, and in the East Indies.

Inga Sinemariensis? The pacai bean of Peru; some stocks were seen growing at Taheiti.

Cajanus Indicus, cultivated at the Hawaiian Islands. And also in the East Indies, and at Zanzibar.

Desmodium, a low herbaceous species, said to have been brought from the Mexican coast, is naturalised in the environs of Honolulu.

Crotalaria, a species abundantly naturalised at Taheiti.

Poinciana, already noticed as apparently of aboriginal introduction in the central groups. But at the Hawaiian Islands the plant was seen only in the gardens of the resident Whites. It was also seen cultivated for ornament, at Rio Janeiro.

Agati grandiflora, in the gardens of the resident Whites at the Hawaiian Islands. And also in gardens at Manila.

Lablab, the purple-flowered variety or species was seen cultivated by the resident Whites at the Hawaiian Islands.

Inocarpus edulis, already noticed as apparently indigenous in the central groups. A few stocks, brought from Taheiti, were seen in the gardens of a resident White at the Hawaiian Islands.

Spondias dulcis, also noticed as a tree of aboriginal introduction in the central groups. A few stocks brought from Taheiti were seen in the garden of a resident White at the Hawaiian Islands.

Amygdalus Persica, the peach. At the Hawaiian Islands the "fruit has not been known to ripen, and the tree becomes evergreen, and will not flower unless artificially stripped of its leaves." The peach succeeds in Australia, and somewhat unexpectedly in New Zealand.

Psidium, the guava, at the Hawaiian Islands, is hardly cultivated with success in more than one district, while of late years it has overrun the more fertile portion of Taheiti, and is commonly spoken of as "having ruined the island." The introduction of this plant was dreaded by the residents at Samoa; but at the Feejee Islands, Mr. Brackenridge saw some stocks under cultivation. The guava was seen abundantly naturalised in Brazil, and I met with it also in Peru and in the East Indies.

Cucurbita pepo. The Peruvian variety was seen cultivated at Taheiti, and the North American variety in New Zealand and at the Feejee Islands.

Cucurbita citrullus, the water-melon, has been introduced into the Hawaiian Islands, Samoa, Tongataboo, the Feejee Islands, and New Zealand, and also into Australia.

Sicyos angulata, already noticed as an aboriginal weed in New Zealand, and perhaps even in Australia. The plant was also seen naturalised at the Hawaiian Islands.

Opuntia Dillenii? A species of Cactus, has been naturalised for many years on Oahu.

Portulaca oleracea, naturalised at the Hawaiian Islands, at Taheiti, and at Tongataboo; and likewise in Peru.

Talinum patens, an American plant, was seen naturalised at Taheiti. I met with it likewise growing as a weed in the environs of Rio Janeiro.

Fœniculum vulgare, naturalised on the Hawaiian Islands, and probably introduced by the route of Spanish America.

Daucus carota, the carrot, naturalised at the Hawaiian Islands and in New Zealand, and likewise in Australia, in Chili, and in North Patagonia.

Gardenia florida, in the gardens of the resident Whites at the Hawaiian Islands.

Coffea Arabica, the coffee plant, has been introduced into the Hawaiian Islands and into Taheiti. And it was likewise seen cultivated in the East Indies.

Ageratum conyzoides, already noticed as an aboriginal weed in Polynesia. It has been introduced into Madeira probably with taro culture. And it was also seen at St. Helena and at Rio Janeiro.

Eclipta, already noticed as an aboriginal weed in the Feejee Islands. Growing also as a weed at Rio Janeiro and in Peru.

Sonchus oleraceus, already noticed as an aboriginal weed in New

Zealand. The plant was found by Dr. Holmes at the Auckland Islands; and it was also seen naturalised in Peru and in North Patagonia.

Sonchus, a more prickly species, naturalised at the Hawaiian Islands and in New Zealand; and apparently the same species in the United States.

Xanthium strumarium, naturalised at the Hawaiian Islands, and also in North Patagonia.

Datura stramonium, introduced probably from the United States into the Hawaiian Islands.

Solanum, a prickly species, having orange-coloured fruit, naturalised at the Hawaiian Islands.

Solanum nigrum, already noticed as an aboriginal weed in Polynesia. The plant was seen naturalised in Australia, in St. Helena, in Chili, and on the Upper Sacramento in California.

Nicotiana tabacum, tobacco, cultivated by the Natives in a small way, at the Hawaiian Islands, at Taheiti, at Samoa, at Tongataboo, and even at the Feejee Islands. Tobacco was seen cultivated on a more extended scale in the East Indies, in Australia, in Peru, and in Brazil.

Capsicum frutescens, already noticed as apparently of aboriginal introduction in Polynesia. The plant was seen under cultivation in Australia and in Peru.

Physalis edulis, already noticed as of aboriginal introduction in Polynesia. The plant was also seen naturalised in Australia, in Peru, at St. Helena, and at Madeira.

Lycium barbarum, growing in the mission garden at Tongataboo.

Stachytarpheta, naturalised at the Hawaiian Islands, and seen planted at Tongataboo. It is, perhaps, the species which has become an abundant weed in the environs of Rio Janeiro.

Priva lappulacea, naturalised at Taheiti, and also seen growing as a weed in Peru, and in Brazil.

Cuscuta, a species seen at the Hawaiian Islands, which, however, was considered by the natives as indigenous.

Urtica urens ?, seen naturalised at the Hawaiian Islands.

Morus alba, cultivated at Taheiti, and at the Hawaiian Islands.

Euphorbia hypericifolia ?, naturalised at Taheiti, and also in the East Indies.

Amaranthus, a species, derived perhaps from the United States, was seen naturalised in the Hawaiian Islands.

Aleurites triloba, already noticed as indigenous in Polynesia, or at least, of aboriginal introduction. The tree is now common in the environs of Rio Janeiro.

Casuarina equisetifolia, already noticed as of aboriginal introduction in Polynesia. The tree, within a few years, has become common in the environs of Rio Janeiro.

Canna Indica, in the gardens of the resident Whites, at the Hawaiian Islands; also seen in gardens at Manila, and naturalised around Rio Janeiro.

Canna, a yellow-flowered species, naturalised at the Hawaiian Islands.

Musa sapientum, already noticed as of aboriginal introduction in Polynesia. A Chinese variety has been introduced by the missionaries into Samoa.

Musa, the fehi, already noticed as of aboriginal introduction in Central Polynesia. A few stocks brought from Taheiti were seen in the garden of a resident White on Hawaii.

Cocos nucifera, already noticed as of aboriginal introduction in Polynesia. The cocoa-palm was seen at the Cape Verd Islands; but neither in Brazil nor in Peru.

Allium cepa, the onion, is now cultivated at the Hawaiian Islands, at the Feejee Islands, and in New Zealand. It was seen also in Australia and in Peru.

Amaryllis aulica, has been introduced from Brazil into the Hawaiian Islands.

Bromelia ananas, the pine-apple, is now cultivated at Taheiti, at Samoa, and at the Feejee Islands. The plant was also seen cultivated at Sydney.

Furcræa gigantea, has been introduced from Brazil into the Hawaiian Islands.

Commelina.—A species has been introduced into Madeira, and apparently with taro culture. I have not compared the specimens with Polynesian.

Colocasia esculenta, the taro, already noticed as of aboriginal introduction in Polynesia. It is now extensively cultivated at Madeira.

Typha, a species growing in one locality on Taheiti, and I am inclined to suspect that it was introduced either from Peru, or from New Zealand. The question may probably be decided by a comparison of specimens.

Poa annua, was seen naturalised at the Hawaiian Islands, and in New Zealand.

Digitaria sanguinale, already noticed as apparently an aboriginal weed in Polynesia. The plant has been introduced into St. Helena.

Panicum capillare, a grass well known in the United States, has been introduced into the Hawaiian Islands.

Eleusine Indica, already noticed as apparently an aboriginal weed at the Central Groups. But at the Hawaiian Islands the plant, according to some, had been introduced by the Whites; and residents further assured me, that it had increased within a few years.

Eragrostis capillaris? naturalised at the Hawaiian Islands.

Briza media, naturalised at the Hawaiian Islands; and also in Australia.

Kyllingia monocephala, already noticed as an aboriginal weed in Polynesia. The plant has been introduced into St. Helena, and it was seen also at Rio Janeiro and in Peru.

CHAPTER XXIII.

INTRODUCED ANIMALS AND PLANTS OF EQUATORIAL AFRICA.

CERTAIN domestic animals appear to have been introduced into Equatorial Africa at a very ancient period, and in all probability either by the way of Egypt and the river Nile, or by the nearer and more accessible route of SOUTHERN ARABIA. To this class belong—

The *bullock*, universally in the possession of the tribes of Eastern and Southern Africa, when these countries first became known to Europeans.

The *sheep*, found in like manner, universally in the possession of the same tribes. Some remarkable varieties of the sheep, have sprung up, subsequently, to all appearance, to the original introduction.

The domestic *dog*, which at the present day seems to be universally known in Equatorial and Southern Africa; the animal being kept, as I was informed, by the Ethiopian tribes. A trader at Zanzibar pointed out to me a dog (like the common Arab variety, but parti-coloured,) as a specimen, or rather, as "altogether resembling the breed which prevails in Western Africa, where, also he had seen a variety that does not bark, though in other respects not materially differing."

The *goat* which has reached the Comoro Islands, and is known to all the tribes of East Africa, as far in the Interior as the Monomoisy country.

The *donkey*, which has not yet reached the Negro tribes of the Interior, although it is well known to their Ethiopian neighbours on the North.

The *horse*, which has a yet more limited diffusion, for although the animal has reached some of the Galla tribes, their Ethiopian brethren on the South, the M'Kuafi and Mussai have hitherto rejected its use.

And the *camel*, which is well known in the Somali country, and which has also reached the Galla tribes.

On the other hand, the more anciently cultivated plants of Equatorial Africa, appear to have been derived from a widely different quarter, and to have been introduced, together with the very art of cultivation, from the MALAY COUNTRIES. But at present, I will not undertake to distinguish in all instances, the plants of ancient introduction.

The *domestic fowl*, a bird well known among the Negro tribes of East Africa to the Monomoisy inclusive, may have been in like manner introduced by the East Indians:

Together with the *pig*, an animal known at least to the Comoro Islanders. But to proceed with the plants—

Citrus aurantium, the orange, abundantly cultivated at Zanzibar, and the fruit, (which is more acid than usual,) forming an article of export to Bombay. I would observe, however, that I did not meet with the true orange, either in Hindostan, or in the East Indies.

Tephrosia piscatoria, abundantly naturalised in open ground on the Island of Zanzibar.

Abrus precatorius, growing in wild situations on the island of Zanzibar. Cademosto (A.D. 1454,) met with this plant at the Senegal river.

Lagenaria vulgaris the gourd, cultivated by the Negro tribes of East Africa, and well known to the Monomoisy of the Interior.

Terminalia catappa, planted around houses on the island of Zanzibar.

Ageratum conyzoides, a common weed on the island of Zanzibar.

Eclipta, also a weed on the island of Zanzibar.

Convolvulus batatas, the sweet-potato, cultivated on the island of Zanzibar, and as far in the Interior as the Monomoisy country.

Ocymum, three or four species, cultivated at Zanzibar, including perhaps the one seen among the Pacific islands.

Capsicum frutescens, cultivated on the island of Zanzibar.

Carica papaya, planted around houses on the island of Zanzibar.

Ricinus communis, naturalised on the island of Zanzibar.

Piper betel, the plant seen at Zanzibar. Where the use of betel prevails, as it does at the Comoro Islands, and at Bombay; but the custom is not in vogue in Arabia.

Artocarpus integrifolia, the jack-tree; frequently planted around houses on the island of Zanzibar.

Cycas circinalis, was seen naturalised along the sea-coast. The plant was said to abound at the Comoro Islands, and to be used by the inhabitants as an esculent.

Cocos nucifera, the cocoa palm, abounding on the island of

Zanzibar, and on the coast of the main land opposite; but it was said not to extend into the Interior of the continent.

Areca catechu, the betel palm; several stocks were seen growing on the island of Zanzibar.

Zingiber officinale, the ginger. The roots offered for sale at Zanzibar, were said to be brought from the Comoro Islands.

Musa sapientum, the banana, cultivated on the island of Zanzibar, and by the Negro tribes of East Africa, to a considerable distance in the Interior.

Dioscorea alata. Yams were seen on the island of Zanzibar.

Tacca pinnatifida, growing in wild situations on the island of Zanzibar.

Flagellaria, a species apparently indigenous, and possibly different from the Polynesian.

Colocasia esculenta, cultivated sparingly on the island of Zanzibar, and according to the native account, originally introduced from the Comoro Islands.

Oryza sativa, rice, said to be unknown in the country around Brava; but it is cultivated abundantly by the Negro tribes of East Africa, to the Monomoisy inclusive, bearing everywhere its Malay name, of "padi." Cademosto met with rice on the Gambia. And Lopes (A.D. 1588,) speaks of "a grain brought to Congo not long since from the river Nilus, and called 'luco:'" in which word we readily recognise the Egyptian name of rice.

Saccharum officinale, the sugar-cane, cultivated abundantly by the Negro tribes of East Africa, and as far in the Interior as the Monomoisy country.

Many of the plants above enumerated, are equally cultivated in Hindostan; though this circumstance does not invalidate an original East Indian derivation. The following plants, however, seem to have had their source in HINDOSTAN, and coming probably from the vicinity of the Persian Gulf, the navigation of the Ancient Arabs in some instances, perhaps, furnished the means of conveyance:

Raphanus sativus. Radishes were seen in the market at Zanzibar. And the plant is perhaps of ancient introduction.

Bombax anfractuosum, a beautiful tree; planted in the town of Zanzibar, and perhaps introduced by the Banians.

Zizyphus, the Indian glaucous-leaved lote-tree; a single stock, planted near the town of Zanzibar.

Mangifera Indica, abundantly planted on the island of Zanzibar.

Arachis hypogea, the pea-nut; enumerated by the Monomoisy visitors, among the plants cultivated in their own country.

Cajanus Indicus, also enumerated by the Monomoisy visitors, among the plants cultivated in their own country. It was perhaps introduced into East Africa by the Banians.

Phaseolus ? Beans ; also enumerated by the Monomoisy visitors ; and others stated that beans are cultivated in the vicinity of Brava.

Cæsalpinia sappan, naturalised on the island of Zanzibar.

Punica granatum, planted at Zanzibar ; but, perhaps, only in the gardens of the Arabs.

Jambosa vulgaris, the white-fruited rose-apple, was seen at Zanzibar.

Sesamum Orientale, simsim, said to be cultivated in the vicinity of Brava, and of Mombas.

Solanum melongena, cultivated, and also naturalised, on the island of Zanzibar.

Datura metel, a weed in waste places on the island of Zanzibar.

Ficus religiosa, the pipul-tree ; stocks planted by the Banians in the town of Zanzibar.

Phœnix dactylifera, the date-palm ; two or three stocks planted on the island of Zanzibar, and having the foliage fresher and more flourishing than I have seen it elsewhere ; but they "had never produced fruit."

Sorghum vulgare, juari, abundant in the market at Zanzibar, and said to be also cultivated in the vicinity of Brava.—Cademosto met with this plant in Senegal.

Eleusine corocana, weemby, cultivated sparingly on the island of Zanzibar, but more frequently, it was said, in the environs of Brava. This is the grain said to be "cultivated by the slaves of the Galla."

The following animals and plants appear to have been introduced into East Africa by the PORTUGUESE ; and to have been derived, with one or two possible exceptions, from America :—

The *turkey*, now abundant on the island of Zanzibar.

The Musk or Muscovy *duck* (Anas moschata), abundant on the island of Zanzibar.—According to the received opinion, the bird is a native of Equatorial America.

Bixa orellana, the Arnotto ; the capsules seen in the market at Zanzibar.

Anacardium occidentale, abundantly planted on the island of Zanzibar, and well known, also, on the main land opposite.

Psidium, the guava ; naturalised on the island of Zanzibar ; and, in one instance, I met with the fruit.

Janipha manihot, the cassada ; now forming one of the principal objects of cultivation on the island of Zanzibar, and among the Negro tribes of East Africa to the Monomoisy inclusive.

Bromelia ananas, the pine-apple ; abundantly naturalised on the island of Zanzibar, and said to be cultivated by the Negro tribes of the main land opposite.

Zea mays, cultivated by the Negro tribes of East Africa, and as far in the interior as the Monomoisy country.

Subsequently to the departure of the Portuguese, a variety of animals and plants have been introduced into Zanzibar and the neighbouring parts of Africa, and chiefly by the MUSCAT ARABS:—

The domestic *cat* was perhaps introduced at an earlier period; but the Monomoisy continue to carry cats from the coast; and the animal was said to be unknown among the Ethiopian tribes.

Anona squamosa, was seen at Zanzibar, where it is called "java;" from which circumstance it may be inferred that the plant was probably introduced from the East Indies.

Argemone Mexicana, the yellow-flowered variety, was seen naturalised in the cemetery at Zanzibar.

Brassica rapa, the turnip, naturalised in waste grounds.

Gossypium herbaceum, the cotton. The cultivation does not succeed at Zanzibar, where I saw a few stocks growing.—It is said to fail, in like manner, at Liberia, on the Western Coast.

Citrus Sinensis?, the Mandarin orange, cultivated on the Imaum's plantation.

Citrus decumana, the shaddock, also seen, cultivated, on the Imaum's plantation.

Nephelium lappaceum, bearing fruit at Zanzibar. The original stock reported to have been brought from Sumatra in an American vessel.

Vitis vinifera, the grape; the fruit produced at Zanzibar was said to be of inferior quality.

Amygdalus Persica, the peach. A single tree, which was "brought from America," seemed to be in a thriving condition, but it had not produced fruit.

Jambosa Malaccensis, was seen growing on the Imaum's plantation.

Caryophyllus aromaticus, cloves; are now extensively cultivated, and form an important article of export from Zanzibar.

Lactuca sativa, lettuce; according to the traders, had been introduced from America; but I did not meet with the plant.

Durio zibethinus, several trees, were seen on the Imaum's plantation.

Solanum tuberosum. Potatoes are well known at Zanzibar, and are principally imported from India; but I once saw the plant under cultivation.

Myristica moschata, the nutmeg; trees, in a thriving condition, were seen on the Imaum's plantation.

Ficus carica, the fig. A single tree, having unripe fruit and unusually large leaves, was seen in a garden at Zanzibar.

In conclusion, it should be observed, that domestic animals and

plants of AFRICAN origin, are not altogether wanting on the island of Zanzibar; such as

The domesticated *guinea fowl*, abounding.

Adansonia, perhaps originally introduced; although young stocks were seen that had been spontaneously disseminated. The shell of the fruit is used by the Soahili as a substitute for water-buckets.

Erythrina, a large and magnificent tree, perhaps of African origin, growing on a plantation on the island of Zanzibar.

Momordica balsamina; the fruit brought to the market at Zanzibar. This plant, also, is possibly of African origin.

Jatropha curcas, naturalised around houses at Zanzibar, as likewise at Bombay.—I first met with the Jatropha curcas at the Cape Verd Islands, where it had the appearance of being indigenous. And I observed a corresponding species, truly wild, in Yemen.

CHAPTER XXIV.

INTRODUCED PLANTS OF SOUTHERN ARABIA.

IF the interior mountains of Yemen be excepted, agriculture is very sparingly carried on in Arabia, and only by means of irrigation from wells. In the details of this process, maintained with great labour in the midst of a desert, weeds, which in other countries accompany the footsteps of man, rarely obtain foothold.

Raphanus sativus. Radishes were seen in market both at Mocha and at Muscat.

Gossypium herbaceum, a few stocks, observed growing in a court-yard in the outskirts of Mocha.

Hibiscus esculentus, the fruit abundant in the market at Mocha.

Thespesia populnea, a single tree planted in a court-yard in the outskirts of Mocha. The leaves were in demand, as an external application to wounds.

Citrus medica, the sweet lemon, cultivated in the environs of Muscat; and I have never seen it elsewhere. It is an insipid fruit.

Citrus limonum, the lime, was seen at Muscat.

Citrus, the lemon; the fruit seen in the market at Mocha.

Citrus aurantium. I did not meet with oranges; but I was informed that they are sometimes imported into Mocha from Egypt.

Vitis vinifera. Grapes, of excellent quality, were unexpectedly met with both at Aden and at Muscat.

Zizyphus, a species of lote-tree, planted in gardens at Muscat.

Pistacia vera. Pistachio nuts were said to be sometimes brought to the market at Mocha.

Mangifera Indica. The mangoes brought to the market at Mocha, are small, and of inferior quality.

Parkinsonia aculeata, planted for ornament in the vicinity of Mocha. According to the Arabs, the tree was brought from India.

Parkinsonia ?, a graceful tree, having the habit of Casuarina, and devoid of leaflets; a single stock observed in a garden at Muscat.

Acacia Nilotica, planted in the environs of Muscat.

Amygdalus Persica, peaches; said to be brought to the market at Mocha; but at a later season than the time of my visit.

Prunus domestica. Plums, of good quality, were found to be abundant in the market at Mocha.

Prunus Armeniaca. Apricots, called "bertood," and also "mishmish," abound in the market at Mocha; but those seen, were in all instances small.

Pyrus malus. Apples, of good quality, "imported from Persia," were seen at Muscat. The apples brought to Mocha are very small, scarcely edible, and are chiefly worn for ornament.

Pyrus communis. A quantity of pears, "brought from Bunder-Abbas," was sent on board our vessel at Muscat.

Pyrus cydonia. Quinces, of fine quality, were seen at Mocha.

Punica granatum. The Muscat pomegranates are of superior quality. Pomegranates were said to be brought to the market at Mocha; but a different season from the time of my visit.

Terminalia catappa, planted in gardens at Muscat, and perhaps introduced by the Banians.

Lawsonia alba, henna, which forms an important article of commerce in all the Arabian towns.

Portulaca oleracea, the purslane, naturalised in gardens at Muscat; and also seen, offered for sale in bundles, in the market at Mocha.

Lagenaria vulgaris, gourds, were seen at Muscat.

Luffa, apparently the species cultivated in Egypt; the fruit was seen in the market at Mocha.

Cucumis sativus, the common cucumber, was seen at Muscat.

Cucumis melo. The musk-melons at Muscat are large, but of inferior quality; and those brought to Mocha are likewise inferior.

Cucurbita citrullus, water-melons, were seen both at Mocha and at Muscat, but they were invariably small.

Convolvulus batatas, sweet potatoes; abundant both at Mocha and at Muscat.

Solanum melongena. Egg-plants are abundant at Mocha, where they bear their Egyptian name, "bedingan."

Solanum tuberosum. The potatoes seen at Mocha and at Muscat, had been imported from Bombay.

Ocymum. Bundles of this, and of various other odorous Labiate plants, are offered for sale in the market at Mocha.

Ficus carica, the fig; the dried fruit imported into Mocha from the Persian Gulf.

Ficus religiosa, the pipul tree; in the Banian garden at Muscat.

Cocos nucifera, is said to be cultivated "in the interior country, back of Muscat." Some young stocks were seen at Mocha.

Phœnix dactylifera. The Muscat dates are of superior quality, and form an article of export to the United States, and also, through the Banians, into East Africa.

Hyphœne coriacea, the Doum palm; planted in the vicinity of Mocha, for the sake of the leaves, which are used for making mats.

Pandanus odoratissimus, cultivated in the environs of Mocha, for the sake of the odorous flowers, which are regularly sold in the market.

Musa sapientum, bananas; common in the market at Mocha, but they seemed to be rare at Muscat.

Allium cepa, onions; common in the market at Mocha, and I saw some under cultivation.

Polyanthus tuberosa. The flowers strung together, and also those of some allied plants, are sold in the market at Mocha.

Saccharum officinale, sugar-cane (the stems rather small), observed in the market at Muscat.

Hordeum vulgare, barley (a young crop), was seen under cultivation in the environs of Mocha.

Sorghum vulgare, is the principal grain of Southern Arabia, and the stems, also, are used extensively for feeding cattle. The plant bears its Indian name, "juari."

Eleusine Indica, together with

Pennisetum, and other coarse grasses, are regularly cultivated at Muscat for feeding cattle.

Further details might be given from a new source of information which now begins to be available—from the direct evidence of ancient writings and monuments. But I shall remark, only, that the Himyaritic relics discovered in Yemen, contain representations of the *camel* and of a tame *bird* (possibly intended for the pigeon); and that the mere presence of figures of living objects indicates a date anterior to the Muslim conversion.

CHAPTER XXV.

ANTIQUITIES, AND INTRODUCED ANIMALS AND PLANTS OF HINDOSTAN.

THE only monuments hitherto discovered in India that can be regarded as fairly ancient, are, the caves, the hill-forts, and the Dowlutabad fortification; situated, all of them, in the Western districts.

My acquaintance with the Indian monuments commenced at the Caves of Elephanta. And I wondered at the presence of so much architectural beauty, with nothing borrowed from Greece or Egypt; and at the simplicity and grandeur of design, clearly, as in the last-named instances, surpassing the conceptions of the present day.

With regard, however, to the peculiar style of architecture, I have thought to discover traces of the same in drawings of the ancient monuments of Cabul and Persepolis.

a. *The Budhist Caves.*

Two classes of caves are recognised in India, the Budhist being the most ancient. And the principal Budhist caves hitherto discovered, are, the two series at Karli, the series at Adjunta, and the Kenneri Caves; all which I visited.

One of the caves at Karli is of somewhat imposing dimensions; and I could only compare it to a mould, formed in the rock, of a fretted and vaulted palace. Among the columns, some are simple and octagonal, like the proto-Doric columns of Egypt (and in other Budhist caves I have even seen fluted columns); but this was the only semblance of a connexion in the architecture.

Similar vaulted caves, but of smaller dimensions, occur in each Budhist series; and they usually contain a "deghop," or large solid dome. While the flat-roofed caves adjoining have often a sitting statue of Budha, which receives the light from the narrow entrance.

The features of these statues of Budha partake strongly of the Malayan character; the beard, too, is invariably wanting: but the nose, in some instances, is too prominent for the Malayan race; and the hair is always curled in knobs (as in the Persepolitan bas-reliefs). And after giving much attention to the subject,

I arrived at the conclusion, that the Indian caves were constructed by men of the White race.

The ADJUNTA CAVES contain paintings that are superior in order of merit, over all elsewhere known in India. They are now reduced to a few remnants, which yet afford an insight into the manners, arts, costume, and physical character of the population at a remote period of time, and pourtray a surprisingly high state of civilisation.—The attention of government has been directed to the importance of preserving these records; but the artist appointed to copy them had not arrived at the time of my visit. As, therefore, the Adjunta caves are of recent discovery, and from their remote situation continue to be very little known, I will subjoin the substance of some notes taken on the spot:

The pathway, leading to and in front of the caves, is paved with burnt bricks of large dimensions.

Several of the caves have been left unfinished; but in the whole series I could detect no interruption to unity in design, although so great an amount of excavation could scarcely have been accomplished within one generation.

Cells or dormitories, for ascetics, are numerous, as at the other Budhist caves.

Series of saints, or holy men, sculptured in bas-relief, repeatedly occur; each individual having a circle round the head, and holding the hands in the attitude of prayer.

The stairways, according to the universal plan with the ancient Hindoos, are internal passages in the rock.

Budha, as in the usual representations, is in all instances supported by the flower of the *Nelumbium.*

Lions are sculptured at several of the caves, both at the entrance and in the interior.

Elephants are frequently represented in the bas-reliefs; in one instance, piercing a *tiger* on the ground; in another, fighting among themselves; and they sometimes carry a rider, but are devoid of saddle and other accoutrements:

Buffaloes occur in the bas-reliefs; and, in some instances, fighting.

Also, a man riding an imaginary animal, which is formed of a combination of the horse, ram, and lion:

An imaginary bird, taken chiefly from the *peacock:*

And chowries, which I believe are made of the tail of the *Yak,* or mountain bullock of Thibet.

The *cobra,* or hooded snake, is repeatedly sculptured—an animal still worshipped in India—on account, it was said, of some supposed connexion with the febrile influence of the sun.

The paintings are on a thin layer of plaster or chunam; a material well known to the ancient Egyptians, and which, at the

present day, is applied to a great variety of purposes in Arabia and India.

The colours employed were observed to be, pale blue, and deep ultramarine blue; dull red, and pale orange-red; pale green, and dark green; white; black; light rose or flesh colour; and deep brown.

Among the objects represented in these paintings, are:—

Clouds, together with various trees and flowers; in some instances, having a rich and landscape-like effect:

A man accompanied by a woman (the latter wearing anklets); the same personages make their appearance in several of the caves:

A fine female figure, with drooping eyelids, brunette complexion, and abundant curling hair; having a large roll in the lobe of the ear, beads round the neck, armlets, and a fillet encircling the head:

Another woman; having her long straight hair arranged so as to form a head-dress:

A third woman; having, however, the complexion dark brown, and wearing large ear-rings:

Men, wearing a cincture, very similar to that still used in India:

Other men, wearing, in place of the cincture, a belt or sash, the ends of which hang loose in front:

Also, a man, armed with a club, and an incurved or bent shield:

A king, or chief, wearing a profusely ornamented head-dress:—further, the complexion of most of the above human figures was observed to be deep brunette, or about the same as in the Mongolian race:

Two persons seated; each having an ornamented head-dress, tiara-like, and resembling some at Elephanta:

Geese, swimming among aquatic plants (the Nymphæa and the Nelumbium):

The *Nymphæa stellata*, repeatedly and distinctly represented; the margin of the leaves not crenulate, and the flowers bright blue:—one of these lotus flowers, is held out by a man having a fillet tied around his arm:

The *banana* plant; distinctly and repeatedly represented:

A tree with pinnate leaves, like an *Acacia;* but apparently not intended for the Tamarind:

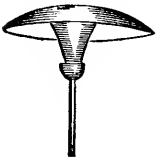
Birds, green above and white beneath; and, in form, resembling some of the species of cuckoo:

Whitish *monkeys* (Entellus?); and a baboon (Papio?): also, *antelopes*, apparently of three distinct species; one having knotted horns; a larger kind, with straight horns; and a third kind,

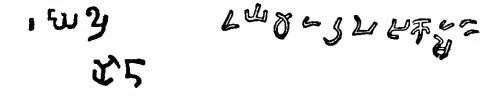
with low hind quarters :—these five animals might probably be identified by a person conversant with Indian zoology :

A *horse* and rider :—and also a two-wheeled cart (the wheels with eleven spokes), drawn by a pair of horses ; a circumstance deserving of attention, since horses, at the present day, are rare, and are not used for draught in the interior of India.

The most interesting cave contains the painting of a large wheel ; between the spokes of which are seen a multitude of human figures ; various, in complexion, from the fair European to blackish-brown ; but all much alike in feature, and having long straight hair. Umbrellas make their appearance, some of them square-topped ; and others resembling the modern Chinese, except in being destitute of a projection above (as is shown in the annexed wood-cut) : also depressed water-jars, similar in shape to those now used (but perhaps earthen) ; together with various other implements and manufactured articles. In the same cave are represented, horses saddled and bridled, and a huntsman attended by hounds ; two human faces looking out of a window ; two men, with mustaches, having beads round the neck, and each holding out an article like a small flower-pot ; a woman of rank, attended by a female umbrella-bearer, and dressed according to European fashion, in a petticoat (which is short-sleeved) ; a pinnate-leaved palm, intended apparently either for the *Date* or the cocoa ; and, in consideration of the distance from the sea, probably for the Date : also, a plant in many respects resembling the *Pandanus*.

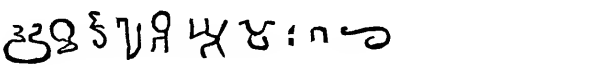


Series of saints are equally represented in the vaulted caves ; where, however, there is a manifest change in style in the paintings. The figures of men are numerous, and they have the hair and beard straight, and the brunette complexion ; and some individuals wear a striped garment hanging over one shoulder, while others are clothed in white, and others again, in long red robes. One of these vaulted caves contains remnants of inscriptions ; the characters (some of which are partially obliterated,) being, in one instance,



traced with black paint, and in another with white. These inscript ons appeared interesting, from being possibly coeval with the original construction, and I have therefore inserted copies.

Inscriptions in the "cave character" are peculiar to the Budhist caves; but the above being excepted, all that are known are sculptured. A sculptured inscription in the "cave character," occurs on the outside of one of the caves at Adjunta, and a copy of a portion of it is inserted below.



b. *The Braminical Caves.*

The BRAMINICAL CAVES may be readily distinguished by the evidences of Polytheism, and by the presence of many-handed and many-headed personages: Budha himself being represented in the Braminical pantheon, as having three pairs of hands.

Certain representations are common to both classes of the Indian caves, such as those of the Nelumbium, the Nymphæa, the cobra, chowries, lions, monkies, buffaloes, elephants (which in all instances are ridden without howdah or saddle), the goose, perhaps one of the antelopes, umbrella-bearers; women wearing armlets and anklets, and men wearing the belt or sash.

On the other hand, the following particulars seemed to be peculiar to the Braminical caves, and they were noted principally in the most extensive of the two series hitherto discovered in the caves at Ellora:

Representations of the *Mango*, and of

A *Sacred Fig* (neither of which trees were distinctly made out at Adjunta). The fig seemed to be the species devoid of an involucre, notwithstanding that it was called the "wurr tree," by some Hindoos in attendance.

Peacocks, separately and unequivocally represented.

Scorpions, also represented; together with

Bullocks, which are caparisoned, and altogether resemble those of Modern India.

Elephants, having, like the bullocks, bells round the neck; also the elephant-headed god.

A goddess seated on a galloping *Lion*, and bearing on one arm a parrying shield; also, a man riding a lion.

Large shields which are provided with a distinct handle;

Clubs somewhat resembling the short Feejee club, but more sculptured and ornamented;

Straight swords which are rounded at the end;

And battle-axes.

Men wearing caps, some of which are like the modern Afghan, and others like the modern Turcoman caps.

The god holding a trident;

And in reference to Feejee customs, it was observed that the male figures often have armlets, and that in one or more instances a boy is represented as wearing a neck-plate.

Further, some of the male figures have anklets.

The *tiger*-headed god in the act of devouring a human victim.

And among the numerous deities, "Juggernaut" was pointed out to me by some Hindoos in attendance.

Ram-headed personages are occasionally represented;

And also, *boar*-headed men and children.

Winged personages or angels.

Brama, represented as usual as having three faces.

A dragon, vomiting forth a ram-horned lion or griffin.

Mermaids, but without the terminal fin: and other imaginary animals.

A woman holding a flag-shaped fan, which is very similar to those now used in Nubia and Yemen.

A man having a short "kris," which is less curved than that worn by the modern Arabs.

Skeleton figures resembling the popular representation of Death.

In one instance, a woman holding a small quadrangular box, perhaps for containing ointment:

In another instance a man holding a flagon or bottle.

Pigmies are repeatedly represented;

Together with cornucopias;

And a man holding a roll, or a cylindrical implement resembling one.

Some of the angles of the door-ways were observed to have oblique perforations; perhaps not coeval with the original construction, but entirely similar to those seen at Hadjerkim, in Malta.

In the finest of the Ellora caves, I observed some remains of ornamental painting, the colours employed being dull red, light blue, light green and *yellow*.

The goddess having (like the Amazons of old) a single breast, or the combined personage, female on one side, and called "Parbutee and Mardao," was seen only at Elephanta.

Where, too, representations occur of the Hindoo Triad, or of "the creating, the preserving, and the destroying power."

The floor of some of the Elephanta caves is made to contain a thin stratum of water; and, indeed, I remarked no provision for drainage in the other Indian caves.

The Elephanta caves, regarded as a work of art, always

pleased me; and even in the sculptured figures, I found something to admire in the grouping and in the boldness of the relief.

On the other hand, the style of the immense excavations at Ellora is corrupt, and the general effect is not altogether agreeable. Some of the details, however, are worth the attention of artists. And the excavated building is interesting as a specimen of the style of temple-architecture at an ancient period. It should be observed, that there is a seeming mixture of class at Ellora, in the presence of caves of the usual Budhist character; these, however, have every appearance of being coeval with the rest of the series; and I was unable to discover about them any inscriptions in the "cave character."

There are no naked figures in the Budhist caves, neither could I find anything of an indecent tendency; a striking point of difference from the Pharaonic and from the Roman antiquities.

The same remark may indeed be extended to the Braminical caves, for the emblems of Siva, which occur in some of them, have clearly nothing to do with the original construction. It may be inferred, however, from various circumstances, that the introduction of these emblems was anterior to the Muslim Conquest; a recently discovered cave at Elephanta was found, on removing the earth, to contain one of them. The Guzerati Bramins continue to make pilgrimages to Elephanta; "arriving annually at Bombay in April and May."

The excavated temple at Ellora is called the "kylas." The name brought to mind a possible reference to the caves of India, by Herodotus; in his account of the "Ethiopians bordering on Egypt, who use the same grain* as the Calantian Indians, and their dwellings are subterraneous."

We have, however, notices of India of a much earlier date than the time of Herodotus. Homer, besides mentioning Bacchus and Nysa, seems to allude to India in the expression, "Ethiopia which sees the rising and the setting sun." I may refer also to what I have already stated in another chapter, respecting the importation of cinnamon.

The Pharaonic Monuments contain representations of certain foreigners, who are perhaps people of India. One of the nations defeated by Rhamses Sethos,makes use of cars drawn by bullocks (according to the present custom of Hindostan); and the animals, moreover, have the peculiar form of the Indian bullock.† In the tomb of the same Pharaoh, one of the "four geographical

* Herodotus; Thalia, 78 and 97. It may be observed in reference to the Greek word σπερματι: that the same kinds of grain are actually cultivated in Nubia, and in the Dekkan; as Sorghum, Pennisetum, and Milium.

† Rosselini, Monumen. Stor., pl. 128.

divisions of the world," is represented by men wearing the hemispherical cap (similar to that of modern Cabul), and a long richly ornamented scarf, winding repeatedly round the body.* The winding scarf, is strictly an Indian dress; though so far as my own observation extends, I have seen it worn by females only.

The conquests of the immediate predecessors of Rhamses Sethos appear in general to have been more limited, yet the walls of Karnac offer representations of the Indian bullock, and of a fortress defended by men clad in the winding scarf.† It may further be inferred from the above representations, that in the direction of the Indus the people were already, at that early day, distinguished for their skill in manufactures.

Earlier, however, than the Pharaonic ages we have the religious symbol of the *water-lily* (Nymphæa) at the very commencement of the monumental history of Egypt. The presence of the same symbol on the earliest Indian monuments plainly indicates actual intercommunication.

The *asp*, or cobra, is another religious symbol common to the monuments of India and Egypt. I have not found representations sufficiently exact to determine the species figured on the Indian monuments; and it should be observed, that of the two known species of cobra, one is indigenous in India, and the other in Northern Africa.

c. *Domestic Animals and Plants of Ancient India.*

In enumerating the domestic animals and plants of India, I shall begin in chronological order with the earliest monuments. The BUDHIST CAVES, as already stated, contain representations of the following animals and plants:

The *goose*, the species undetermined.

The *dog*.—Not observed in the Braminical caves.

The *sheep*, the head forming part of an imaginary animal.—Represented also in the Braminical caves, but only in the ram-headed personages.

The *horse*, an animal that does not thrive in Southern India.

The *elephant*.—Represented also in the Braminical caves.—The above five animals are all mentioned, according to Stevenson, in the Sama Veda,‡ and, according to the modern Bramins, in the Institutes of Menu.

The *buffalo*, an animal apparently indigenous either to India or to the Indo-Chinese countries.—The buffalo is likewise figured in the Braminical caves; and is mentioned, according to Stevenson,

* Loc. cit. pl. 158. † Rosselini, Monumen. Stor. pl. 80.
‡ Stevenson's Sanhita of the Sama Veda. London, 1842.

in the Sama Veda, and, according to Deslongchamps, in the Institutes of Menu.

The *banana*, a plant probably derived from the Malay countries.

Possibly the *Pandanus;* which plant, it should be observed, is confined to the coast.

A pinnate-leaved palm, apparently intended for the *Date* palm.

Nymphæa stellata, a plant, to all appearance, indigenous to India.

And the *Nelumbium*, which plant is likewise apparently indigenous to India.—The Nelumbium is, besides, commonly figured in the Braminical caves.

Representations of the following additional animals and plants make their appearance in the BRAMINICAL CAVES:

The *bullock*, agreeing altogether with the breed used in India at the present day.—The bullock is mentioned, according to Stevenson, in the Sama Veda, and, according to the modern Bramins, in the Institutes of Menu.

The *pig*, in the figures of boar-headed personages.—According to the published versions, the pig is mentioned both in the Sama Veda and in the Institutes of Menu.

The *peacock*, perhaps represented on the Budhist monuments.—The bird, according to Stevenson, is mentioned in the Sama Veda.

The *mango*, possibly represented on the Budhist monuments. The tree is apparently indigenous in India, though, at the same time, it is abundantly planted.

And a species of *Sacred Fig*, the same, apparently, which I saw planted around the temple of Krishna.

Leaving now monumental evidence, the following additional animals and plants are mentioned by ANCIENT WRITERS as existing in India. I have had, however, but little opportunity of consulting the works of these writers; and the subjoined list is far from being complete.

The *honey-bee*, according to the published versions, is mentioned in the Sama Veda, in the Institutes of Menu, and in the Mahavansi of the Ceylon Budhists.

The domestic *pigeon*, according to Stevenson, is mentioned in the Sama Veda.

The *domestic fowl*, according to Deslongchamps, is mentioned in the Institutes of Menu.

The *goat* is mentioned, according to Stevenson, in the Sama Veda, and, according to the modern Bramins, in the Institutes of Menu.

The *donkey*, according to the published versions, is mentioned in the Institutes of Menu, and even as used for riding by Bramins. Arrian, too, speaks of the donkey being used for riding in India.

The *camel*, according to the published versions, is mentioned in

the Institutes of Menu, and likewise as used for riding by Bramins. Herodotus and Arrian both speak of Indians riding on camels.

The domestic *cat*, according to Deslongchamps, is mentioned in the Institutes of Menu.

The gigantic reeds of India mentioned by Herodotus, can only be referred to the *bamboo*.—This plant at the present day is cultivated, although rather sparingly, in Western India.

Rice, according to the published versions, is mentioned in the Sama Veda and in the Institutes of Menu. Theophrastus speaks of rice being found by Alexander in India.

Barley is mentioned, according to Stevenson, in the Sama Veda, and, according to Deslongchamps, in the Institutes of Menu. Theophrastus speaks of barley being found by Alexander in India.

Wheat, according to Theophrastus, was found by Alexander in India.

Gardens of *myrtle* trees, according to Arrian, were seen by Nearchus in India.—I met with some stocks of the myrtle in a European garden in the Dekkan.

The *Banian Fig* (Ficus Indica) is distinctly described by Theophrastus, who states that it was found by Alexander on the river Acesines.—The tree only in rare instances acquires numerous trunks.

The *sugar-cane*, or rather its manufactured product, is mentioned, according to the published versions, both in the Sama Veda and in the Institutes of Menu.

The *hemp*, with the cloth made from it, is mentioned, according to the published versions, in the Institutes of Menu.

The *flax*, with the cloth made from it, is mentioned, according to the published versions, in the Institutes of Menu.—I met with the flax under cultivation in the Dekkan.

The *lentil* (Ervum lens), according to Theophrastus, was found by Alexander in India.—At the present day the lentil is abundantly cultivated in India; and its native name, "mussoor," seems to indicate that the plant was received from Egypt.

According to Deslongchamps, the Institutes of Menu prohibit the higher castes "from eating the *onion* (Allium cepa), the *garlic* (A. sativum), and the *leek* (A. porrum)."—These three plants are cultivated in India at the present day; and the leek, it may be observed, bears its Egyptian name, "khorat."

The *cotton* plant is mentioned as existing in India by both Herodotus and Theophrastus. Cotton thread, according to the modern Bramins, is mentioned in the Institutes of Menu.

The *henna* (Lawsonia) appears to have been known in India in the time of Arrian, as may be inferred from his statement, "that

the people of India daub their beards white, red, purple, and green." I observed the use of henna by the Western Hindoos; and the plant is abundantly cultivated in the vicinity of Bombay.

Various other plants and vegetable products of India that were communicated to Egypt in ancient times will be found enumerated in another chapter.

d. *Introduced Plants of Modern India.*

I will insert, however, in this place, a list of the additional introduced and cultivated plants which fell under my personal observation in Western Hindostan:

Anona squamosa, cultivated in the vicinity of Bombay; and, according to Graham,* the plant has a native name.

Argemone Mexicana, the yellow-flowered variety, abundantly naturalised in the Dekkan, where also I observed fields of it under cultivation.

Raphanus sativus, the radish, abundantly cultivated in the Dekkan.

Bixa orellana, the arnotto, cultivated in the vicinity of Bombay.

Hibiscus rosa-sinensis, the flowers frequent among the temple-offerings. I observed a stock, which had evidently been planted, growing in front of the lesser caves at Karli.

Thespesia populnea, planted in the environs of Bombay.

Adansonia trees were occasionally met with in the vicinity of Bombay, but differing somewhat in aspect from those seen on the island of Zanzibar.

Bombax anfractuosum, planted in gardens at Bombay.

Citrus sinensis ?, the Mandarin orange, cultivated in the vicinity of Bombay, and also at Aurungabad.

Citrus decumana, the shaddock; the fruit observed at Bombay.

Melia azedarach, planted around villages throughout Western Hindostan; but it appeared to have been recently introduced; and I found it commonly called, the "English tree."

Azadiracta Indica, a large tree, planted around the villages of the Dekkan.

Cissus quadrangularis, in the Botanic Garden at Bombay.

Vitis vinifera, the grape; observed under cultivation. The plant was perhaps introduced by the Muslims; I do not find that it has a native name.

Averhoa bilimbi, observed in gardens at Bombay.

Zizyphus lotus, the lote-tree; planted around the villages of the Dekkan.

* Catalogue of the plants growing in Bombay and its vicinity; by John Graham, Bombay, 1839.

Zizyphus, the glaucus-leaved species; planted with the preceding, around the villages of the Dekkan.

Anacardium occidentale, planted in the vicinity of Bombay. Probably introduced by the Portuguese: and the nuts are, besides, imported from Goa.

Boswellia thurifera, observed in the Botanic Garden at Bombay.

Moringa pterygosperma, planted around villages.

Sophora tomentosa, in gardens at Bombay.

Parkia biglandulosa, also in gardens at Bombay.

Trigonella fœnum-grœcum, abundantly cultivated in the Dekkan.

Sesbania Ægyptiaca, growing abundantly in cultivated ground, in the environs of Bombay.

Agati grandiflora, planted in gardens and around villages.

Cicer arietinum, the chick-pea; abundantly cultivated in the Dekkan.

Abrus precatorius, possibly indigenous.

Cajanus flavus, the pigeon-pea; abundantly cultivated.

Ceratonia siliqua, observed in the Botanic Garden at Bombay. According to Graham, the plant is of recent introduction.

Vachellia Farnesiana, planted, and also naturalised.

Acacia Nilotica, planted within a few years, along roadsides in the Dekkan; the trees appeared to be in a thriving condition.

Arachis hypogea, abundantly cultivated in the Dekkan.

Cæsalpinia sappan, planted in gardens at Bombay.

Poinciana pulcherrima, in gardens at Bombay. Apparently, a different species from the one seen in Polynesia. According to Graham, it has a native name.

Parkinsonia aculeata, planted for ornament in the environs of Bombay.

Tamarindus Indica, the tamarind tree; planted and naturalised throughout Western Hindostan.

Cassia alata, in the Botanic Garden at Bombay.

Cassia fistula, appeared to be really indigenous on the mountain slopes. According to Graham, it has a native name.

Cassia tora, observed in the Concan, naturalised in waste grounds.

Cassia Occidentalis, also naturalised in waste grounds.

Terminalia catappa, planted around Bombay. The tree was probably derived from the East India Islands.

Punica granatum, cultivated in gardens,; but the fruit produced is of inferior quality.

Psidium, the guava; only seen cultivated, and I do not find that it has a native name.

Lagenaria vulgaris, the fruit offered for sale in the market at Bombay.

Cucumis sativus, the common cucumber; cultivated, and perhaps the same species indigenous.

Cucurbita citrullus, the water-melon ; the fruit offered for sale in the market at Bombay.

Carica papaya, planted around villages.

Bryophyllum calycinum, in gardens in the vicinity of Bombay.

Opuntia Dillenii?, a red-fruited species, abundantly naturalised in the Dekkan ; where, by an adventitious adaptation, its thickets furnish a congenial retreat for the porcupine.

Panax ? fruticosum, a shrub, frequent in gardens. I do not find that it has a native name.

Panax ? cochleatum, a shrub, frequent in gardens at Bombay.

Mussœnda frondosa, observed only in the Botanic Garden at Bombay ; but according to Graham, the plant has a native name.

Coffea Arabica, in the Botanic Garden at Bombay.

Carthamus tinctorius, abundantly cultivated in the Dekkan.

Ageratum conyzoides, naturalised in waste places.

Cacalia sonchifolia, a weed, observed growing around one of the villages in the Dekkan.

Tagetes erecta, the flowers were observed to be among the most common offerings in the temples. This plant is regarded by botanists as a native of America ; and indeed, according to Hernandez, it has a Mexican name.

Eclipta, common in rice grounds.

Helianthus annuus, the sun-flower ; observed in gardens at Bombay.

Coreopsis tinctoria, also observed in gardens at Bombay.

Chrysanthemum Indicum, the flowers were occasionally observed in the Dekkan, among the temple offerings.

Mimusops hexandra, several trees observed, planted around a Muslim musjeed, at Imaumpore, in the Dekkan.

Olea sativa, the common olive ; in gardens at Bombay. According to Graham, it was introduced from Egypt in 1837.

Jasminum, a single stock observed, which was climbing around a pipul tree (Ficus religiosa), near one of the villages of the Dekkan.

Nyctanthes arbor-tristis, in gardens ; and to all appearance, really indigenous in the vicinity of the Adjunta caves.

Plumeria acuminata, planted around villages, throughout Western Hindostan.

Cerbera Thevetia, in gardens at Bombay.

Allamanda Aubletii, planted in gardens in the environs of Bombay.

Hoya carnosa, in the Botanic Garden at Bombay.

Asclepias Curassavica, observed only in the Botanic Garden at Bombay.

Bignonia stans, planted in gardens at Bombay.

Sesamum Orientale, abundantly cultivated in Western Hindostan.

Ipomœa phœnicea, in gardens at Bombay. I do not find that the plant has a native name.

Ipomœa quamoclit, in gardens. And likewise apparently devoid of a native name.

Convolvulus batatas, the roots observed in the market at Bombay.

Convolvulus arvensis, naturalised in the Dekkan.

Solanum tuberosum. Potatoes of good quality, are abundant in the market at Bombay.

Solanum melongena, the Egg-plant; abundantly cultivated. And I observed the large blue-fruited variety, which is now well known in the United States.

Solanum, possibly the smooth-fruited esculent species of the Feejee Islands. Some stocks planted in pots were observed at Bombay.

Capsicum frutescens, the fruit observed in the market at Bombay.

Datura fastuosa, the flowers were occasionally observed in the Dekkan, among the temple offerings.

Maurandya semperflorens, in the Botanic Garden at Bombay.

Herpestis Monniera, observed in the Dekkan; growing in wet ground and possibly indigenous.

Ocymum sanctum, observed planted on the top of a brick column, at one of the temples in the Dekkan.

Leonotis leonurus, growing in the Botanic Garden at Bombay.

Stachytarpheta, observed in gardens in the vicinity of Bombay.

Lantana, two species, observed in gardens.

Gmelina Asiatica, planted in gardens at Bombay.

Tectona grandis, the Teak tree; indigenous, and also seen in gardens.

Plumbago rosea, in gardens at Bombay. According to Graham, it has a native name.

Plumbago Capensis, also in gardens at Bombay.

Boerhaavia procumbens, the annual minute-flowered species, frequent in the Dekkan. It appeared to be identical with the one seen in cultivated ground at the Polynesian islands.

Achyranthes aspera, abundant and possibly native.

Gomphrena globosa, cultivated for ornament in gardens.

Aerva lanata, abundantly naturalised in the environs of Bombay.

Salvadora Persica, a tree, planted around villages in the Dekkan.

Santalum album, in gardens at Bombay.

Euphorbia tirucalli, abundantly planted and naturalised in the environs of Bombay. In the East Indies I met with the plant growing in wild situations, and apparently indigenous.

Euphorbia tithymaloides, in gardens at Bombay. According to Graham, it has a native name.

Sapium sebiferum, in the Botanic Garden at Bombay.

Ricinus communis, naturalised in waste grounds; and in the Dekkan, sometimes regularly cultivated.

Jatropha curcas, naturalised in the environs of Bombay.

Janipha manihot, in the Botanic Garden at Bombay.

Codiæum variegatum, cultivated for ornament at Bombay.

Croton tinctorium, growing in the environs of Bombay, and perhaps native. It appeared to be the species which I saw in Egypt.

Aleurites triloba, planted in gardens at Bombay. According to Graham, it has a native name.

Ficus religiosa, the "pipul" tree; planted around temples and villages.

Ficus carica, the common fig, cultivated in gardens.

Artocarpus incisa, the bread fruit; in gardens at Bombay.

Artocarpus integrifolia, the jack-tree; in the Botanic garden at Bombay.

Morus alba; some stocks observed in the Botanic Garden at Bombay; but the cultivation does not succeed.

Casuarina equisetifolia, planted in the environs of Bombay.

Cupressus sempervirens, the cypress; occasionally seen in the Dekkan. The tree was perhaps introduced by the Muslims.

Piper nigrum, the plant observed in the Botanic Garden at Bombay.

Piper betel, the leaves often seen in the market at Bombay.

Aloe, a species naturalised in the Dekkan.

Dioscorea aculeata, probably introduced from the East Indies by the Portuguese. The roots, "brought from Goa," common in the market at Bombay.

Dracæna terminalis, var. ferrea; observed in gardens at Bombay.

Asparagus officinalis, in the Botanic Garden at Bombay.

Furcræa gigantea, in the gardens of European residents.

Bromelia ananas, the pine-apple; sometimes seen in gardens, but the cultivation as a fruit does not succeed.

Phœnix dactylifera, the Date palm; cultivated solely for the sake of the sap, for making "toddy."

Areca catechu, the betel-nut palm; planted in the environs of Bombay.

Cocos nucifera, planted in the environs of Bombay.

Caryota urens, in gardens at Bombay; and besides indigenous on the mountain slopes.

Borassus flabelliformis, planted in the environs of Bombay.

Pandanus odoratissimus, maritime, and to all appearance indigenous.

Colocasia: a species, was said to be "cultivated in the Dekkan, for the sake of the leaves, which form a substitute for spinach."

Colocasia grandifolia, observed in gardens at Bombay.

Cynodon dactylon, abundant; and according to Graham, much esteemed for feeding cattle. This use of the plant, as I formerly found, had attracted the attention of colonists in Australia.

Dactyloctenium Ægyptiacum, frequent in the environs of Bombay.

Setaria, a species seen under cultivation in the Dekkan.

Pennisetum typhoideum, abundantly cultivated in the Dekkan.

Sorghum vulgare, abundantly cultivated throughout Western Hindostan.

CHAPTER XXVI.

INTRODUCED ANIMALS AND PLANTS OF EGYPT.

In their original condition, the alluvial flats of the Nile, appear to have been a pastoral tract, devoid of trees, and in all probability, abounding in game. In proportion as the soil became occupied for irrigation and cultivation, game doubtless became rare, and some of the larger kinds disappeared from the valley. There is, perhaps, no reason to suppose the extinction of species; for as the Nile, on the one hand, opened a path to Northern climates for the lion; so, other animals inhabiting its banks, appear to have been originally Asiatic.

The natural vegetation of these river-flats, is extremely simple, and consists of grasses, and other herbaceous and humble plants. The species are few in number; and at least in affinity, are European. Tropical forms are rare, even in the Thebaid, and do not modify the general aspect of the vegetable growth.

It is no new remark, that the cultivated plants of Egypt, have been all derived from abroad. Prior, then, to their introduction, agriculture was unknown on the banks of the Nile; and the art accompanied the objects from some foreign and distant country.

I shall proceed to enumerate the domestic animals and plants of Egypt, in chronological order; beginning with those figured on the earliest monuments.

1. *The Primitive Monarchy, or the Time of the Pyramids.*

Some of the tombs immediately around the Great Pyramid, have been ascertained to be coeval with it in their construction. These were first pointed out to me by Mr. Bonomi; and, together with a tomb of the sixth dynasty at Saccara, they contain representations of the following animals and plants:

The domestic *goose*. The bird is likewise figured on all the subsequent monuments.

The *dog;* in one or two instances, and having the tail curling, but the muzzle pointed like that of the jackal.—In the grottoes at Beni Hassan (belonging to the succeeding period), numerous varieties of the dog are figured; and, among them, the greyhound, employed, as in modern times, for its superior swiftness in the chase. This kind of sport, moreover, is said to be well known in Nubia.

The *bullock;* a long-horned variety, which occurs on the monuments of the succeeding period, but hardly on those of a later date. Additional varieties of the bullock first made their appearance at Beni-Hassan, where, too, the animal is represented in the state of secondary wildness, parti-coloured individuals being associated with other game in the hunting scenes.

The *goat;* a variety or breed, presenting nothing unusual in the form of body.—The goat is figured on all the subsequent monuments.

The *sheep;* a remarkable variety, with spreading horns, and which appears soon to have become extinct. But the figure of the peculiar head continued in later times to form a hieroglyphic character.

The *donkey;* kept in droves. And in the Saccara tomb some are caparisoned as beasts of burden.

Associated with the above are certain other animals represented in the reclaimed state. These were, perhaps, considered sacred, or were kept for sacrificing; though some of them seem well adapted for economical purposes. To this class belong—

The large, undetermined species of *crane* (Grus.)—At Beni-Hassan, the bird is represented as kept in flocks; and I met with a single figure of this crane on an early Pharaonic monument.

The *oryx*, or the large, straight-horned African antelope; in some instances represented as kept in herds.

On the other hand, the ibex, or *capricorn*, is represented single, and is, perhaps, not to be regarded as fairly domesticated. At all events, the two animals next in order are merely kept in captivity:

The *hedge-hog* (Erinaceus auritus), carried in cages; but, from the frequent figures, the animal seems to have been regarded as sacred.

And a species of *monkey* (Cercopithecus); doubtless brought down the Nile, either from Abyssinia or from Central Africa.

The *ibis* is also figured, but without any accompanying evidence that the bird was kept in captivity.

The habits of the primitive Egyptians appear to have been in great part pastoral; but agricultural operations are equally repre-

sented on the earliest monuments, together with the following plants:

The *grape;* and, further, the process of making wine.—This art is likewise represented on the Pharaonic monuments.

Grain, in standing crops; with the regular process of reaping. The species is, perhaps, rye; but, possibly, *wheat* (Triticum hibernum.)—I would observe, however, that the history of this latter grain is by no means clear. The σῖτον of Homer and Herodotus, according to the use of the term by the modern Greeks,* is the Wheat.

There is yet a third species of grain, which is possibly the one figured—the *spelt* (Triticum spelta.)—According to the received opinion, the spelt is the "far" of the Romans; and the Latin word may probably be identified with the πυρος of Homer, and the "var" of Genesis. Herodotus states that the presents sent by the Hyperboreans to Delos, were wrapped in the straw of the πυρος.—Belon, among other modern writers, speaks of seeing the spelt in Egypt.

The *paper-reed* (Papyrus), and also the process of writing; together with rolls, or books. This point, moreover, is in accordance with Manetho, who expressly mentions books that were written during this early period. At the present day, the paper-reed has nearly, if not altogether, disappeared from Egypt; a circumstance that may be cited among the proofs of a foreign origin.

The writing-pens were probably made from the true *reed* (Arundo donax), and likewise the arrows figured at Beni-Hassan and on the Pharaonic monuments. In the time of Pliny, the reed appears to have been regularly cultivated in Egypt; and its rarity at the present day may be attributed in part to the change in the mode of warfare.

The *sacred water-lily*, or lotus (Nymphæa cærulea); figured, also, on the subsequent monuments. The flowers, indeed, are rarely painted blue; but the margin of the leaves, even in the most careful representations, is invariably entire. The N. cærulea is probably indigenous, or spontaneously disseminated in Egypt; for plants that are strictly fluviatile, agree in their geographical distribution with fluviatile animals.—I met with the dried flowers of a blue Nymphæa (probably N. stellata), in the Indian drug-shops at Mocha; and also with a third species of blue Nymphæa (distinguished by its dentate leaves), growing on the island of Zanzibar.

* Wherever, as in this instance, I have referred to the modern Greek usage without specifying the authority, I have been guided by the Lexicon of Zalikoglous. Printed at Venice, A.D. 1815.

Large river-barges, propelled by numerous oars, are represented in the Saccara tomb; and the timber for their construction, if not imported from abroad, or from the Upper Nile, must have been derived from *cultivated groves*.

The fruit of the common *fig* (Ficus carica.)—Figures of the entire tree occur on the Pharaonic monuments.

The fruit of the *pomegranate* (Punica granatum.)—Figures of the entire tree occur on the Pharaonic monuments.

The fruit of the *water-melon* (Citrullus.)—Figured, also, on the Pharaonic monuments. Water-melons are mentioned in the Books of Moses, and under the name still given to this fruit in Egypt.

The fruit of the *hairy cucumber* (Cucumis chate.)—Figured, also, on the Pharaonic monuments. This species of cucumber is cylindrical, and devoid of papillæ; and, if I understood aright, is called "gutteh" at Cairo. It seems, therefore, to be one of the plants mentioned in Exodus, ix. 32.

Some figures, among the offerings of fruits, are possibly intended for heads of the *artichoke* (Cynara scolymus.)—This plant is commonly cultivated in Egypt at the present day; and, according to the received opinion and the modern Greek usage, is the κιναρα of Sophocles and Ptolemy Euergetes.

Other figures among the offerings correspond very well with the *shallot* (Allium Askalonicum.)—This plant, according to the modern Greek usage, is the γηθυον of Theophrastus. Alpinus is the only author I have met with, who mentions the shallot in connexion with Egypt.

Herodotus mentions seeing an inscription having reference to the construction of the Great Pyramid; and, as interpreted to him, containing notices of the three following plants:

The κρομμυα; according to the received opinion and the modern Greek usage, the *onion* (Allium cepa.)—This plant is unequivocally represented on the Pharaonic monuments; and is mentioned in the Books of Moses under its current Egyptian name, and by Homer under its Greek name.

The σκορδα; according to the received opinion and the modern Greek usage, the *garlic* (Allium sativum.)—At the present day, according to Clot-Bey and Figari, this plant "is very sparingly cultivated in Egypt;" and, indeed, Hasselquist expressly mentions the importation of garlic.

And the σφμαια, usually considered to be the *radish* (Raphanus sativus); and if so, the μελανοσυρμαιον of Aristophanes (Thesmoph. 857), may refer to the black-skinned variety.—Some figures on the Pharaonic monuments seem intended either for the radish or for the beet. At the present day the radish is abundantly cultivated throughout the Arab countries.

On referring now the above-mentioned plants and animals to their several places of origin, it will be perceived that nearly all are Northern and Asiatic. Five, however, of the plants are decidedly Tropical (the Papyrus, Fig, Pomegranate, Hairy Cucumber, and Water-melon); some of these are possibly from Abyssinia, but all are of a sufficiently hardy constitution to bear transportation by land by an extra-Tropical route. I am not aware of any positive evidence that the communication with India by the way of Meroe and by sea, existed at this early day.

Monumental history, in many countries, commences with the relics of a barbarous age: not so in Egypt; but the first colonists who settled on the Lower Nile appear to have been already in a high state of civilisation.

2. *The Period of the Hyksos; or the Pali-Egyptian Period.*

The second period in the history of Egypt commences with the accession of the twelfth dynasty, and, likewise, with the earliest unequivocal representations of the White man hitherto discovered. The date accompanying these representations has been astronomically determined at about B. C. 2200.*

The principal monuments belonging to the period under consideration, are, so far as at present known—the Obelisk at Heliopolis; the Labyrinth (which I did not visit); the grottoes at Beni-Hassan; some sanctuaries at Thebes, and others in Nubia; together with the entire temple of Semné.

An immense variety of objects are represented in the paintings at Beni-Hassan; including, perhaps, all the animals and plants that occur on the anterior monuments (together with the same peculiar varieties); and in addition, the following:

Various species of *ducks;* mostly wild; but in one instance, a flock, possibly of the domesticated bird. In some Pharaonic plans of gardens, ducks are swimming in artificial ponds. Moreover, tame ducks are mentioned by Varro, and by other ancient writers.

The *Indian bullock.*†—This variety occurs also on the Pharaonic monuments; though always, I believe, as inhabiting the enemy's country.

Albino *rabbits,* carried in cages, and seemingly regarded as sacred.—I am not aware that the animal in its domesticated state is represented on the Egyptian monuments; but tame rabbits are mentioned by Varro, Martial, and other ancient writers. According to Leo Africanus, the rabit is indigenous in Mauritania.

* See Egypte Ancienne, by M. Champollion-Figeac. Paris, A. D. 1840

† Rosselini, Monum. Civil., Pl. 20.

The *ape* (Cynocephalus); and various other kinds of monkeys; all, however, doubtless brought from the Upper Nile.—I am not aware that any Indian species of monkey is figured on the Egyptian monuments.

The *chittah*, or hunting leopard (Felis jubata); brought doubtless from Nubia.—The animal is likewise figured in the Pharaonic Tribute-processions.

Among the plants, the most important novelty is the *Date-palm.*—Figured likewise on the Pharaonic monuments. The introduction of the living plant must have produced a change in human affairs throughout Northern Africa.

The representations of clothing imply the cultivation of *flax* (Linum); although there is some ambiguity, on account of the early use of leather. However, a portion of a mummy case, composed of layers of linen, is now in Washington; and from the finished workmanship, and the primitive forms of the hieroglyphic characters, the relic seems referable to the period under consideration.—At the present day, the flax, although a northern plant, is cultivated throughout the Arab countries, to the Dekkan, inclusive.

Checkered baskets, and flag-shaped fans, are figured on this mummy case; and it may therefore be inferred, that the *Doum-palm* (Hyphæne crinita), was already known in Egypt.—This tree is represented as regularly planted in some Pharaonic plans of gardens.

3. *The Pharaonic Ages.*

The Third Period in the history of Egypt, commences with the expulsion of the Hyksos, or Shepherds; and with the accession of the Dynasty, usually termed the Eighteenth. The temples at Thebes were chiefly reared by the princes of this and the next succeeding dynasty; and, indeed, constructions of the same date are the most numerous everywhere in Egypt and Nubia.

On the earliest Egyptian monuments, representations of gods are rare, unless perhaps as a hieroglyphic character; but manifestations of idolatry and polytheism abundantly distinguish the Pharaonic constructions. Were, however, all other marks wanting, these constructions might readily be recognised,

By the representation of the *horse.* Sieges and military expeditions (conducted on foot) are indeed represented at Beni-Hassan: but with the acquisition of the horse, a marked change appears to have taken place in the national character; and the Egyptians became a warlike and conquering people. Leaving on their monuments ample illustration of the "Heroic Ages" of ancient writers.

The earliest figure of the *pig*, hitherto discovered, occurs in a

tomb at El Kab (belonging to the commencement of the eighteenth dynasty). A drove is here made to subserve agricultural purposes, in the peculiar manner described by Herodotus. Goats had been previously employed, as appears from the anterior monuments.

In the procession of foreign nations bearing tribute to Thouthmosis III., a young elephant is led by men of the White race; and it may be inferred, from the latter circumstance, that the animal was not derived from Africa. *Indian elephants* could have been conveniently transported to Egypt, either by the Persian Gulf, or altogether by sea; and, indeed, there are grounds for suspecting that the latter route was actually used by the Ptolemies.

The large tusks, carried by some of the same delegates, are of course those of the *African elephant:* and they indicate the existence of commercial intercourse between India and Equatorial Africa.

According to published copies, the head and neck of the *domestic fowl* is also figured in this Tribute-procession; brought, however, in the prepared state as a curiosity. The inference is, that the living bird was at the time unknown in Egypt: that it inhabited a distant land, even beyond Hindostan, and, perhaps, as the companion of man.—This is the only known representation of the domestic fowl on the Egyptian monuments; and I do not find the bird mentioned in the Old Testament; nor by Homer, Hesiod, Herodotus; nor by any writers prior to Ctesias and Aristophanes.

I have not found the domestic *pigeon* unequivocally represented on the Egyptian monuments; but a figure occurs at Medinet Abou, which, from some attendant circumstances, has been referred to the carrier-pigeon.—Homer and Herodotus both speak of the common domestic pigeon; and carrier-pigeons are expressly mentioned by Anacreon.

Living plants in pots (possibly the *Crocus*) are carried by the delegates of a second foreign nation, in the above-mentioned Tribute-procession.

With regard to the living exotic tree, carried by a third set of delegates; the checkered receptacle denotes a Nubian or Arabian origin. The same species of tree is figured on other Pharaonic monuments; and appears to have been regarded as sacred.—The account of the περσεα by Theophrastus and Pliny, may be compared. Delile refers the περσεα to the *Balanites;* and the place of origin corresponds; for, according to Cailliaud, the Balanites "is found on the shore of the Red Sea, as well as along the Upper Nile from Sennaar to Fazoglo."

The sticks of *ebony*, figured in the same Tribute-procession,

were derived, in all probability, either from India or from Madagascar; it may be from Madagascar, by the route of the Upper Nile.—This, at least, was the probable source of the ebony brought down the Nile in the time of Herodotus.

Baskets, containing *indigo*, are figured in the same Tribute-procession; and the manufactured substance was probably imported by sea, along the coast of Yemen, from India.—The indigo plant does not appear to have been cultivated in Egypt prior to the time of the Muslims.

The *sycamore* fig-tree is figured on various Pharaonic monuments. Moreover, I have seen a wooden mummy-case of the time of the first king of the eighteenth dynasty; and these cases are usually considered to be made of sycamore-wood.

However, it has recently been asserted, that the mummy-cases are made of the wood of the *Cordia myxa;* a point, in regard to which, I am unprepared to offer an opinion.—Bird-lime (a substance said to be procured from the Cordia myxa) is mentioned in the book of Amos.

Tufts of fern, and a forest of *fir-trees* (Abies picea), growing in a foreign country, are figured on the walls of Karnac. The tall flag-staffs, placed on the Pharaonic temples, were doubtless spars (either of fir or pine) imported by sea; and probably from Syria.

A red fruit, agreeing in many respects with that of the *lote-tree* (Ziziphus lotus), is figured in a tomb at El Kab.—The lote-tree appears to be mentioned by Theophrastus, under the name, λωτος παλιουρος. I frequently observed the Z. lotus planted around the Egyptian villages; the natives persisting in the assertion, that it bears "the finest of all known fruits."

Branches of *myrtle* (Myrtus communis), carried by females, are figured on the Pharaonic monuments.—The myrtle is clearly a tropical plant, foreign originally to the Mediterranean countries. Indeed, Pliny speaks of the myrtle as a stranger to Italy; mentioning, however, that a stock was found growing on the site selected for the foundation of Rome. Theophrastus and Pliny both speak of the myrtle as existing in Egypt. And it is commonly planted there in gardens at the present day.

From the representations of the practice of anointing, the *olive* (Olea sativa), appears to have been known in Egypt during the Pharaonic ages. I did not, however, meet with figures of the tree or the fruit.—The olive is mentioned in the Books of Moses, as well as in Judges (ix. 9); and under the name still current in Egypt. Homer, too, mentions the olive. And Pliny speaks of trees growing at Thebes; and quotes Fenestella, as stating, that in the reign of Tarquinius Priscus (B. C. 578) there were "no olives in Italy, Spain, or Africa."

The *pear* (Pyrus communis) seems to be figured in the Phara-

onic plans of gardens.—Homer and Virgil both speak of this fruit. And it is commonly cultivated in Egypt at the present day.

The flower of the *Nelumbium* does not occur on the Egyptian monuments; but I have thought in various instances to distinguish the fruit. And according to this conjecture, it is the emblem designating Asiatic prisoners. Herodotus distinctly describes the Nelumbium, and as growing in Egypt. But at the present day the plant is known there, I believe, in but one or two gardens. Delile's figure does not altogether agree with the Indian species.

The Cucurbitaceous plant with deeply-lobed leaves, figured on a Pharaonic monument as growing over framework, is, perhaps, the *Luffa;* but possibly the Momordica balsamina. Both these plants are commonly cultivated in Egypt at the present day.

The Cucurbitaceous plant with serrated cordate leaves, twice figured (though without fruit) in the Tombs of the Pharoahs, is perhaps the *Gourd* (Lagenaria). From the epithet given to a particular variety of pear, it may be inferred, that the "cucurbita" of Cato and Pliny is the Gourd. This plant is figured by Matthioli (A.D. 1573); and, at the present day, is abundantly cultivated in Egypt and in the other Mediterranean countries.

The round-headed grain, figured in the tomb of Rhamses Sethos and also at El Kab, and which is pulled while the stems are yet green, corresponds in many respects with the *Panicum Italicum.* I repeatedly met with this plant under cultivation in Egypt, where it is called "dokn": the word occurs in Genesis, and in other portions of the Scriptures.

Pennisetum typhoideum, (its spike being always erect, and in some varieties ovoid,) is possibly the figured plant. The μελινη of Herodotus and Theophrastus, and the "milium" of Pliny (xviii. 7), may also be compared. The Pennisetum is figured by Dodonæus (A.D. 1569): and I repeatedly met with the plant in Egypt.

Barley (Hordeum), is figured on the Pharaonic, if not on the anterior monuments. Further, the manufacture from barley of "booza" (a kind of beer), appears to have been practised in Egypt as early as the time of Herodotus.

We next arrive at the commencement of Written History, or the lifetime of the earliest authors whose works are extant; and from this epoch the testimony of eye-witnesses, in successive generations, extends down to the present day.

The terms in which the Exodus is narrated convey a date by the Egyptian Cycle. But the time of the completion of the cycle then pending, is an undetermined point of Chronology. Some remarks on the subject may therefore be deemed not out of place.

Syncellus makes the following statement, the substance of which is supposed to have been derived from Manetho:—*Τούτῳ τῷ ἑ ἔτει τοῦ κε′ βασιλεύσαντος Κογχάρεως τῆς Αἰγύπτου ἐπὶ τῆς ις′ δυναστείας τοῦ Κυνικοῦ λεγομένου κύκλου παρὰ τῷ Μανεθῷ ἀπὸ τοῦ πρώτου βασιλέως καὶ οἰκιστοῦ Μεστραΐμ τῆς Αἰγύπτου, πληροῦνται ἔτη ψ′, βασιλέων κέ*: "In the fifth year of Concharis, the twenty-fifth king of Egypt during the sixteenth dynasty of the cycle called cynic by Manetho, from the first king and colonist of Egypt, Mestraim, were completed seven hundred years, twenty-five reigns." Turning now to the fragments of Manetho preserved by Josephus, and adding to the "five hundred and eleven years of Shepherd rule" the succeeding reigns, seven hundred and eleven years will bring us to the fifth year of the first Acencheres. Again, a seeming record of the completion of the cycle occurs (at Thebes) on the walls of the Ramesseum, and is repeated in the tomb of the builder's father, Menepthah; a king, who holds the same relative position on the monuments as the three Acencheres do in Manetho's list.

The length of the Egyptian Cycle is the time in which a measure of three hundred and sixty-five days will traverse all the seasons. And on this point Pliny quotes a statement of Manilius: "That the phœnix lives six hundred and sixty years, and that the revolutions of the Great Year correspond." Now, various reasons lead us to suppose, that the Egyptian Cycle is a multiple of seven; and it will be observed, that two phœnixes and a third make fifteen hundred and forty years, and that these divided by seven, give one-third of a phœnix. The quoted statement will then I think be found to agree with modern estimates of the length of the year; after making allowance in these estimates for the velocity of light. In Egypt, however, the years of the cycle had been actually counted; and, as pointed out to me by Mr. Gliddon, the Egyptians have a palpable mark of the true length of the year in the singular constancy of the initial day of the inundation of the Nile: coincident, moreover, now as in the time of Herodotus* with the Summer Solstice.

Most of the animals and plants above enumerated as figured on the Egyptian monuments, are mentioned in the earlier portions of the Scriptures, together with the following in addition:

The *honey-bee* is mentioned in the history of Samson; and also by Hesiod and other ancient Greek writers.

Peacocks, according to the English version, were brought in the ships of Solomon. The bird is mentioned by Aristophanes; and according to Athenæus, by more ancient poets, such as Eupolis. In its wild state, the peacock is peculiar to Hindostan.

* See Herodotus; Euterpe, 19.

The *camel* is mentioned in the books of Moses; and also by Herodotus, and other ancient Greek writers. The figure of the camel occurs on the Himyaritic monuments of Yemen; but (as remarked by Bonomi), is absent from the Egyptian monuments. There are indeed grounds for supposing that for some centuries the Egyptians actually shut out the camel from the West of Africa. I do not remember, that the animal is noticed in the Roman accounts of Numidia: and its final introduction into that region must have produced a revolution in society, by carrying population into districts previously uninhabitable.

The *lentil* (Ervum lens) is mentioned in the history of Esau, and under the name still given to the plant in Egypt. The lentil continues to be a favourite article of diet with the Egyptians.

According to the received opinion, the *terebinth* (Pistacia terebinthus), is mentioned in the books of Moses; particular trees in Palestine being already noted on account of their extraordinary age. Various modern travellers speak of the import of terebinth seeds into Egypt; and Belon mentions a tradition, that the Persians lived on these seeds before becoming acquainted with bread. I have not met with evidence that the terebinth tree is truly wild in the Mediterranean countries.

The *almond* (Amygdalus communis), is mentioned in Genesis xxx. 37, and under the name still given to the plant in Egypt. The almond is also mentioned by Ctesias, Xenophon, and other ancient Greek writers.

The "libneh" of Genesis xxx. 37, may be compared with the *rosemary* (Rosmarinus officinalis.) At the present day, the rosemary is a favourite garden plant in Egypt.

The *leek* (Allium porrum) according to the English and the Septuagint Versions, is mentioned in the books of Moses. A Greek word used by Homer is considered to have reference to the leek; and Pliny expressly mentions the presence of this plant in Egypt, where at the present day it is commonly cultivated.

According to the English and the Septuagint Versions, *frankincense* (the product of the Boswellia) is mentioned in the books of Moses. This substance was doubtless imported through the medium of the Arabs; as is intimated in Jeremiah vi. 20, and as is expressly stated by Herodotus.

Some remarks respecting *cinnamon*, another article of traffic mentioned in the books of Moses, have been already given in a preceding chapter.

Balm (the product of the Amyris opobalsamum) is mentioned in the books of Moses, and is known to have formed at a later period an object of cultivation in Palestine. Josephus mentions

a tradition, that "the balm-tree was introduced into Palestine by the Queen of Sheba;" and so far as the place of origin is concerned, this account may be compared with the statement of Strabo.

The *myrrh* mentioned in the books of Moses was perhaps transported by land from Yemen. The Somali country is the principal source of the myrrh of commerce; but I learned at Mocha, that a portion is actually produced in Yemen. Herodotus speaks of myrrh, and the myrrh tree is distinctly described by Theophrastus.

The "shittim wood" of the books of Moses is supposed to be the wood of an Acacia; and it has been ascertained that two species, (*A. seyal*, and *A. gummifera*,) in some instances becoming arborescent, grow wild in the Sinai Peninsula. It appears, moreover, that gum-arabic is actually collected there, though the principal source of this article of commerce is the Somali country. Gum-arabic is mentioned by both Herodotus and Pliny.

I did not, while in Egypt, distinguish the above two species of Acacia; but I met with no wild plant attaining the dimensions of a tree. I frequently observed the "sont" (*A. Nilotica*) planted around villages on the margin of the desert, and as mentioned by Herodotus, the timber is used in the construction of river-barges.

The *bean* (Vicia faba) is mentioned in Samuel and in Ezekiel, and under the name still current in Egypt. At the present day this plant forms one of the principal objects of cultivation in Egypt, for the sake of both the seeds and stems.

In reference to the *almug-trees* brought in the ships of Solomon, I would observe, that at the present day, the joists used to support the floors and flat roofs at Mocha, are imported ready-made from Zanzibar.

The *musk-melon* (Cucumis melo) is in Egypt called "kauun." The "kikayon" of Jonah may be compared, as well as the κικυος of some early Greeks, and the σικυος of Aristophanes and Theophrastus.

According to the received opinion, the *Nigella sativa* is mentioned in Isaiah xxviii. 25 and 27. Belon states that this plant furnishes the black seeds so generally sprinkled on bread in Egypt.

The *cummin* (Cuminum cyminum) is mentioned in Isaiah, and by the name still given to the plant in Egypt. The cummin is also noticed by Aristophanes, Hippocrates, and other Greek writers.

The *Sueda hortensis* is in Egypt called "mullah." The "malluach" of Job xxx. 4, may be compared; and, in reference to the associated plant, it may be observed, that "rætæm," according to Forskal, is the Egyptian name of a species of Atriplex.

With respect to the "nard" or "spikenard" of Solomon's Song, the modern Arabic name seems to indicate the *rose*. Indeed, the notice of the "nard" in Mark is sufficiently descriptive of the essential oil (or attar) of roses. This substance is perhaps mentioned by Homer and Pliny; and Celsus (about A. D. 27) expressly speaks of the distillation of roses. Theophrastus and Pliny both allude to the presence of the rose in Egypt. The plant is foreign to the natural vegetation of Egypt, but is extensively cultivated in that country for commercial purposes.

It appears, however, that the ναρδος of the modern Greeks is the *lavender* (Lavandula). I have met with indigenous species of Lavandula both in Yemen and in Hindostan; though, according to Clot-Bey and Figari, the L. stæchas has been but recently introduced into Egypt.

Two of the ancient Greek writers lived before the conclusion of the Pharaonic ages, Homer and Hesiod; and, according to astronomers, the remark of Hesiod respecting the rising of the Pleiades involves the date of "B. C. 958."

From the examples already given, it will be perceived that the Scriptural names of plants are still in use in Egypt. Further, in many instances, the current Egyptian name furnishes a clue to the plants mentioned by Greek writers; and the correspondence will even be found closer, the further we recede into antiquity.

The *white poplar* (Populus alba) is in Egypt called "hour." The αχερωις of Homer and Hesiod is but the same word softened into the Greek idiom; and in later times we find a different one substituted. Theophrastus expressly mentions the presence of the white poplar in Egypt.

The μακεδνης αιγειροιο of Homer (Od. vii. 106) may be compared with the *aspen* (Populus tremula). Belon met with the aspen at Constantinople; and, according to Clot-Bey and Figari, the tree is cultivated in the gardens of Cairo.

The αιγειρος of Homer, Hesiod, and Theophrastus, according to the received opinion, is the *Populus nigra*. This tree has a native name in Egypt, according to Forskal and others.

The *chick-pea* (Cicer arietinum) is in Egypt called "hommos." The κυαμος of Homer can be readily identified. Moreover, the singular resemblance in the seed to the head of a ram may account for the κυαμος being "regarded unclean" by the Egyptians of the time of Herodotus.

The edible *lupine* is in Egypt called "termes." The ερεβινθος of Homer can be readily identified. The statement of Theophrastus respecting the "woody stem" of the ερεβινθος may also be compared. In later times, however, we find the Greek name transferred to a different plant.

It would appear, from the modern Greek usage, that the ζεα of

Homer is possibly the vetch; though there is some confusion, perhaps arising from the practice of sowing mixed crops for feeding cattle. According to Forskal, the *Vicia sativa* is in Egypt called "faurum," in which word we readily distinguish the Latin "far." The V. sativa, however, is not enumerated among the cultivated plants of Egypt.

With regard to the μηλον of Homer and Hesiod, it will be observed that the plant, in all probability, was not received from Egypt; and that the circumstance of the Greek word equally signifying a sheep, seems to cover an allusion to the downy coating of the *quince* (Cydonia vulgaris). The "malum" of Virgil seems also to be the quince. I have had occasion to remark that the quince succeeds better than the apple in the Arab countries.

The λωτος of Homer, referred by Pliny to the "melilotus," is usually considered to be the *Melilotus officinalis*. Clot-Bey and Figari enumerate the M. officinalis among the plants long known in Egypt.

Homer's account of the Lotophagi may have some connection with the coincidence between the Arabic name of the *fenugreek* (Trigonella fœnum-græcum) and that of a peculiar conserve, and with the practice of using this conserve for enticing children away from their parents. The fenugreek is a favourite article of diet with the Parsees of India; and the account by Herodotus of the τριφυλλον of their forefathers may be compared. Theophrastus, however, (according to the received opinion,) mentions the fenugreek under a different name.

Homer's account of the νεπενθες drug of Egypt is sufficiently descriptive of *opium*. Pliny not only mentions opium, and the fact of its being adulterated at Alexandria, but he speaks of its use being condemned by Diagoras and Erasistratus (who are supposed to have lived respectively B. C. 416 and B. C. 257). Pliny mentions also the "garden white poppy" (Papaver somniferum), from which the drug is obtained. Opium is still one of the staple productions of Egypt.

Saffron-coloured garments are mentioned by Homer; thus implying the use of the *safflower*, or Dyer's saffron (Carthamus tinctorius). At the present day this plant is very generally cultivated throughout the Arab countries, from Egypt to the Dekkan inclusive.

The πτελεᾶ of Homer and Hesiod, according to the received opinion and the modern Greek usage, is the *elm* (Ulmus campestris). The elm is enumerated by Clot-Bey and Figari among the plants long known in Egypt.

The μελια of Homer, Hesiod, and Aristophanes, according to the received opinion, is the *ash* (Fraxinus). Theophrastus mentions the presence of the μελια in Egypt; where, accord-

ing to Clot-Bey and Figari, F. excelsior is planted at the present day.

The δρυς of Homer, Hesiod, and others, according to the received opinion and the modern Greek usage, is the *oak* (Quercus). Theophrastus speaks of oaks growing around Thebes, from which vicinity they had already disappeared in the time of Pliny. I have not found the oak mentioned by modern writers as existing in Egypt; but I met with the tree under cultivation in the Botanic Garden at Cairo.

The κρανεια of Homer and Theophrastus, according to the received opinion, is the *cornel* (Cornus). Two species are mentioned by Theophrastus, and these are usually referred to the C. mascula, and the C. sanguinea. Belon met with the C. sanguinea in Greece; and, according to Clot-Bey and Figari, both species have been recently introduced from Greece into Egypt.

The κληθρη of Homer and Theophrastus, according to the received opinion, is the European *alder* (Alnus). Hasselquist met with the alder in Egypt.

The κυπαρισσος of Homer and Herodotus, according to the received opinion and the modern Greek usage, is the *cypress* (Cupressus sempervirens). This tree is at the present day planted in all Muslim cemeteries.

The θειον of Homer, Theophrastus, and Pliny, according to the received opinion, is the *Thuya Orientalis*. Theophrastus, moreover, speaks of the tree as growing at the oasis of Ammon, and in Cyrene, localities in which it must have been planted. The Thuya continues to be a favourite ornamental tree in Egypt; and Belon found it growing wild on the mountains of Asia Minor.

The πλαταν ιστος of Homer and Herodotus, translated "platanus" by Cicero, is, according to the received opinion, the Oriental *plane* (Platanus Orientalis). Pliny states "that the 'platanus' was first brought over the Ionian Sea to adorn the tomb of Diomedes." I frequently met with the P. Orientalis planted around villages in Egypt.

However, from Forskal's account of the modern usage at Constantinople, the *Acer platanus* would seem to be the plant alluded to by the ancient writers; and it will be observed that Aristophanes speaks of the πλατανος as a wild tree of Greece. Theophrastus mentions the presence of the πλατανος in Egypt; and the A. platanus and A. platanoides are enumerated by Clot-Bey and Figari among the trees planted at the present day in the gardens of Cairo.

The ιον of Homer and Theophrastus, according to the received opinion, is the *Viola odorata*. At the present day, the V. odorata is a favourite garden plant in Egypt.

With respect to the ϰακινθος of Homer, inscribed, according to

Theocritus and Ovid, with alphabetical characters, something of this sort may be found on the calyx scales of certain Compositæ, such as the Chrysanthemum. Linnæus, however, refers the ὑακινθος to the *Delphinium ajacis;* and the current Egyptian name of this plant, "ayakbouh," seems to favour the reference.

The κυπειρος of Homer and Herodotus, according to the received opinion and the modern Greek usage, is the genus *Cyperus.* Wilkinson states that seeds of the C. esculentus have been found in the ancient Egyptian tombs. The living plant was seen in Egypt by Forskal, and also by Delile.

In reference, however, to the Greek word κυπειρος, it should be observed that Inula Arabica and I. undulata (two indigenous plants), together with Croton tinctorium, are in Egypt called "ghobbeyreh."

From Belon's account of the modern usage at Constantinople, it would appear that the σελινον of Homer, Aristophanes, and Plutarch, is the *smallage* (Apium graveolens). The "apium amarum" of Virgil may also be compared.—Alpinus speaks of the cultivation of the A. graveolens in Egypt.

The *rye* (Secale cereale) has been already noticed as possibly figured on the earliest Egyptian monuments. From the modern usage in certain parts of Italy, the ολυρα of Homer and Herodotus is supposed to be the rye; and, according to the received opinion and the modern Greek usage, the "sekale" of Pliny is the same plant.—Alpinus appears to be the only modern writer who has seen rye in Egypt.

The κεγχρος of Hesiod, Dioscorides, and others, is referred by Mathioli to the *Panicum miliaceum.* Herodotus speaks of the κεγχρος being cultivated both at Babylon and on the Borysthenes; and the geographical range agrees only with that of P. miliaceum and P. Italicum.—Forskal and other modern writers speak of the presence of the P. miliaceum in Egypt; and Hasselquist found the plant under cultivation in Palestine.

The μαλαχη of Hesiod, Theophrastus, and others, according to the received opinion and the modern Greek usage, is the *mallow* (Malva). Two species, M. verticillata and M. sylvestris, are regularly cultivated as esculents in Egypt.

4. *The Greek Egyptian Period.*

The fourth period in the history of Egypt commences with Psammeticus, or with the first introduction of a body of Greeks, about B. C. 650. In reference generally to the affairs of nations, the period under consideration might be termed "the time of the Greeks and Romans."

The Egyptian constructions of the Greek Period can be readily

recognised, by a difference in the style of art, by the increased number of hieroglyphic characters, by the reduplication of the deities, and by the absence of all details relating to manners and to the mechanic arts. The Ptolemaic temples are comparatively uninteresting; yet they are not devoid of architectural taste; and their walls, though chiefly devoted to mythological subjects, and ostentatious enumerations of conquests, contain genealogical tables, dates, and astronomical records that might be consulted to advantage.

Few of the mummies hitherto discovered are older than the Greek-Egyptian Period. But the cases containing them often belong to the Pharaonic ages. I have seen a Pharaonic inner mummy-case that remained unopened.

One of the new deities is figured as having the head of the *cat*. And in regard to the anterior ambiguous representations at Beni-Hassan, they appeared to me, on a careful examination, to be intended for varieties of the dog. Herodotus seems to be the earliest writer who mentions the cat; at least, I have found no notice of this animal, by Homer or Hesiod, or in the Old Testament.

According to Forskal, the *Narcissus tazetta* is found in the gardens of Egypt, where it is called "nardjis." The *ναρκισσος* of the Cyprian Verses and of Theophrastus may be compared. The description of Pliny, however, seems to refer to the N. poeticus, which species I have not found mentioned as existing in Egypt.

Pythagoras is said to have written on the medical properties of the *squill* (Scilla maritima), a plant mentioned also by Theophrastus and Dioscorides.—The squill is enumerated by Clot-Bey and Figari among the plants indigenous to, or, at least, long known in Egypt.

The "brassica," celebrated, according to Pliny, by Pythagoras, is considered to be the *cabbage* (Brassica oleracea); and, according to the modern Greek usage, the *κραμβη* of Nicander and of the Batrachomyomachia is the same plant. In Egypt the cabbage is called "koroumb;" and an etymological interference will here be perceived with the Greek words, *κραμβη*, *κρομμυα*, and *συρμαια*.—"Karnabid," the current Egyptian name of the *cauliflower*, may also be compared with the *καρναβαδιον* of the Lexicons, and with the *κουνουπιδι* of the modern Greeks.

The *κοκκομηλον* of Hipponax ("born B. C. 540"), Aristophanes, and Theophrastus, according to the received opinion, is the *plum* (Prunus domestica); possibly, the wild kind (P. insititia); but the *προυνη* of Theophrastus, or the "prunus" of Pliny, is considered to be the garden plum.—Several varieties of the plum are cultivated in Egypt; but the fruit is said to be of inferior quality.

The *ivy* (Hedera), is mentioned by Anacreon and Pindar; and

as a plant connected with the worship of Bacchus. Alexander, according to Arrian, met with priests of Bacchus on the Upper Indus, who asserted that the ivy in that quarter grew only upon Mount Meros. The plant is usually considered to be a native of Europe, but this is not altogether certain.—I have been informed of some recent unsuccessful attempts to cultivate the ivy in Egypt.

The κρινον of Anacreon, Herodotus, and Theophrastus, according to the received opinion, is the white lily of the gardens, *Lilium candidum*.—According to Clot-Bey and Figari, the cultivation of this plant in Egypt hardly extends beyond the Pasha's garden.

The *Sesamum* and its oil are mentioned by Herodotus ("born B. C. 484") in his account of the Euphrates. Pliny, moreover, speaks of the Sesamum as existing in Egypt; and the plant is well known there at the present day.

Herodotus had heard of a kind of "plant growing in India, which, instead of fruit, produces wool, out of which the inhabitants make their clothes." In this description, we readily recognise cotton: and some centuries later, as appears from Pliny and others, the *cotton* plant was introduced into Egypt.

Herodotus describes the edible *Nymphæa lotus*, and as abounding in Egypt, where, however, the plant is possibly indigenous. Theophrastus also mentions the white-flowered lotus.

The θριδαξ of Herodotus, Dioscorides, and Athenæus, according to the received opinion and the modern Greek usage, is the *lettuce* (Lactuca sativa). The lettuce is very generally cultivated in the Arab countries at the present day.

Hemp, κανναβις, is mentioned by Herodotus; and, as a plant, used by the Scythians for making cloth.—According to Lane, hemp was not used in Egypt to produce intoxication until about A. D. 1240.

Herodotus speaks of the use in Egypt of the timber of the "Lotus of Cyrene;" and this corresponds with the account by Clot-Bey and Figari of the *jujube* (Zizyphus vulgaris). According to the modern Greek usage, the jujube is the "zizyphus" of Pliny.

The *Pimpinella anisum* is in Egypt called "yansoun." The ανησον of Herodotus, and of some of the writings attributed to Hippocrates, and also the ανισον of Dioscorides, may be compared. Pliny expressly mentions the anise as existing in Egypt.

The σιλλικυπρια of Herodotus may be compared with the *Elæagnus angustifolia*, which plant is said to yield the "zakkoum" oil of modern Palestine.—The E. angustifolia is enumerated by Delile and others among the garden plants of Egypt.

According to Forskal's account of the modern usage at Constantinople, the καρυα Ποντικα of Ctesias, Dioscorides, and Athenæus is the *filbert* (Corylus avellana). Virgil enumerates the

filbert among cultivated plants, and Pliny expressly states that it "was brought from Pontus into Natolia and Greece." I do not find that the filbert has been seen growing in Egypt.

The *field-pea* (Pisum arvense) is in Egypt called "besilleh;" in which word we readily recognise the πιζελι of the modern Greeks. The φασηλος of Aristophanes ("B. C. 400") and also the "vilem faselum" of Virgil may be compared.—Clot-Bey and Figari speak of the seeds of the field-pea being given to cattle in Egypt.

The πισον of Aristophanes, Theophrastus, and Pliny, according to the received opinion and the modern Greek usage, is the *garden-pea* (P. sativum).—Alpinus met with this plant in Egypt.

The βλητον of Aristophanes, Theophrastus, and Palladius, according to the received opinion and the modern Greek usage, is the *Amaranthus blitum*.—This plant is still cultivated as an esculent in Europe, and, according to Alpinus, also in Egypt.

The ραφανις of Aristophanes, Theophrastus, and Cato may be compared with the *coleseed* (Brassica napus). At all events, the "Egyptian raphaninum oleum," mentioned by Pliny, was probably obtained from this plant.—The manufacture of oil from the B. napus is at the present day well known in Egypt.

The γογγυλις of Aristophanes, Theophrastus, Columella, and Aretæus may be compared with the *colewort*, or the turnip-rooted cabbage (Brassica campestris).—This plant seems to be "brassica raposa," found by Alpinus in Egypt.

The καρδαμον of Aristophanes and of some of the writings attributed to Hippocrates, according to the modern Greek usage, is the *Lepidium sativum*, or pepper-grass.—The L. sativum is enumerated among the plants cultivated in Egypt.

The ναπυ of Aristophanes and Theophrastus is usually referred to the *mustard* (Sinapis). Pliny enumerates the mustard among the plants of Egypt; and one species (S. nigra) has been found in the gardens of Egypt by Forskal and others.

The *beet* (Beta vulgaris) is in Egypt called "selk." The σευτλον of Aristophanes and Dioscorides may be compared. The beet, under its Latin name, is mentioned by Plautus and Martial.

The πηγανον of Aristophanes and Dioscorides, according to the received opinion and the modern Greek usage, is the *rue* (Ruta graveolens).—The rue is enumerated by Clot-Bey and Figari among the plants long known in Egypt.

The *garden basil* (Ocymum basilicum) is in Egypt called "ryhan." The οριγανον of Aristophanes and the modern Greeks, may be compared.—Belon mentions the field culture of this plant in Egypt. And the *O. lignosum* also occurs in that country, according to Clot-Bey and Figari. The genus Ocymum seems to be strictly tropical, and, of course, foreign originally to the Mediterranean countries.

The ανηθον of Aristophanes and Theophrastus, according to the received opinion and the modern Greek usage, is the *Anethum graveolens*.—This plant, according to Forskal, Delile, and others, is at the present day cultivated in Egypt.

The συκαμινον of Æschylus and Athenæus, according to the received opinion, is the *black mulberry* (Morus nigra). Virgil and Dioscorides both speak of the black mulberry.—And it is enumerated, by Forskal and others, among the trees planted at the present day in the gardens of Egypt.

The μαραθρον of Demosthenes and Theophrastus, according to the received opinion and the modern Greek usage, is the *fennel* (Fœniculum vulgare).—The fennel is enumerated by Clot-Bey and Figari among the plants long known in Egypt.*

The earliest works extant, that are expressly devoted to the subject of Natural History, are those of Aristotle (who died "B. C. 322"), and of his pupil, Theophrastus. The writings of Theophrastus on Plants contain much that is of importance in the present inquiry; and I regret that my opportunities of consulting them have been limited.

The two-humped or the *Bactrian camel* is figured on the ruins of Persepolis, and is mentioned by Aristotle.—This species of camel is used in the Crimea and the Caucasian countries; but it appears to have always remained unknown in Arabia and Egypt.

The *pheasant* (Phasianus Colchicus) is mentioned by Aristotle, Pliny, and Athenæus.—I have not found the bird referred to by modern writers as existing in Egypt.

The *Guinea-fowl* (Numida meleagris) is mentioned by Aristotle, Pliny, and Athenæus.—According to Browne, the living bird is still imported in numbers into Egypt by the Darfour caravans.

The *parrot* (Psittacus) is mentioned by Aristotle, Ovid, and Pliny. Ctesias had previously described the parrot as existing in India, and in terms showing that the bird was at the time unknown in Greece.

The υσσωπος of Theophrastus, according to the received opinion and the modern Greek usage, is the *Hyssopus officinalis*.—This plant was seen by Belon at Constantinople, and, according to Clot-Bey and Figari, it has been recently introduced into Egypt.

The ηδυοσμος and μινθη of Theophrastus, according to the received opinion and the modern Greek usage, are species of *mint* (Mentha).—M. aquatica, M. crispa, and M. pulegium, are severally enumerated by Clot-Bey and Figari among the plants long known in Egypt.

The σχινος of Herodotus and Theophrastus, according to the received opinion and the modern Greek usage, is the *mastich-tree* (Pistacia lentiscus). I have not found the P. lentiscus mentioned as existing in Egypt.

According to Forskal, the *Origanum marjorana* is in Egypt called "mardakusj."—The αμαρακος of Theophrastus and Athenæus may be compared.

The μηδικη βοτανη of Aristotle, according to the received opinion and modern Greek usage, is the *lucerne* (Medicago sativa). This plant is also mentioned by Virgil, and Pliny states that "it was brought from Media into Greece during the wars of Darius." —The lucerne is enumerated by Clot-Bey and Figari among the plants cultivated in Egypt for feeding cattle.

According to a passage in Aretæus, taken in connexion with the modern Egyptian usage, the δολιχον of Theophrastus would seem to be the *Dolichos lubia*.—This plant is commonly cultivated in Egypt at the present day.

According to the modern Greek usage, the λαθυρος of Theophrastus would seem to be the *Lathyrus sativus*.—This plant, according to Clot-Bey and Figari, is cultivated in Upper Egypt, and for the sake of the seeds, which are given to cattle.

According to Forskal, the *Vicia lutea* is in Egypt called "bachra." The ωχρος of Theophrastus may be compared.

The *Trifolium Alexandrinum* is extensively cultivated in Egypt, where it is called "bersym." The ερυσιμον of Theophrastus may be compared.

The οροβος of Theophrastus, according to the received opinion and the modern Greek usage, is the *Ervum ervilia*.—Alpinus speaks of the cultivation of this plant in Egypt.

The αιγιλωψ of Theophrastus, according to the received opinion and the modern Greek usage, is the cultivated *oat* (Avena sativa). Pliny speaks of the oat being used for food by the people of the North.—And this use of the plant is also mentioned by Mathioli. The oat has a native name in Egypt, where it is occasionally cultivated for feeding cattle.

The ιρις, mentioned by Theophrastus as "the only spice which Europe produces," may be compared with the *Iris Florentina*, or orris root.—I have not found this plant mentioned as existing in Egypt, where, however, other species of Iris occur, both wild and cultivated, according to Alpinus and Forskal.

The αψινθος of Theophrastus, according to the received opinion and the modern Greek usage, is the *Artemisia absinthium*. And indeed Pliny speaks of this plant as known to the Romans from the earliest times.—The A. absinthium is enumerated by Clot-Bey and Figari among the plants long known in Egypt.

The αβροτονον of Theophrastus, Dioscorides, and Pliny, according to the received opinion, is the southern-wood, *Artemisia abrotonum*. —Delile met with this plant in the gardens at Alexandria.

The ερυθροδανον of Theophrastus and Dioscorides, according to the use of the term by the modern Greeks, is the *madder* (Rubia

tinctorum). This plant is mentioned by Pliny. And it is said that some of the mummy-cloths are dyed with madder.—Delile and others enumerate the R. tinctorum among the plants cultivated at the present day in Egypt.

The αλθαια of Theophrastus and Paulus Ægineta, from the use of the term by the modern Greeks, would seem to be the *Althea officinalis*.—This plant, according to Clot-Bey and Figari, has been recently introduced into Egypt.

The κοριαννητον of Theophrastus may be compared with the *coriander* (Coriandrum sativum). Pliny states that "the best coriander comes from Egypt;"—where, at the present day, the C. sativum is abundantly cultivated.

The δαυκος of Theophrastus, Dioscorides, and Pliny, is usually considered to be the *carrot* (Daucus carota). The σταφυλινος of Dioscorides may also be compared.—At the present day the carrot is abundantly cultivated in Egypt.

The κιχωρη of Theophrastus and Dioscorides, according to the received opinion and the modern Greek usage, is the *endive* (Chichorium). The statement of Pliny, that this plant "is called 'chichorium' in Egypt," is found to be true at the present day.

The ασπαραγος of Theophrastus and Dioscorides, according to the received opinion and the modern Greek usage, is the garden *asparagus* (A. officinalis). Pliny quotes Cato, as giving directions about the culture of "asparagus."—And Alpinus enumerates the A. officinalis among the esculent plants of Egypt.

The ατραφαξις of Theophrastus, according to the received opinion and the modern Greek usage, is the garden *orache* (Atriplex hortensis).—Alpinus enumerates the orache among the cultivated and esculent plants of Egypt.

The αναγαλλις of Theophrastus and Dioscorides is usually referred to the genus *Anagallis*.—The A. arvensis is enumerated by Delile, among the weeds of Egypt.

The μηκων ροιας of Theophrastus is usually referred to the common red poppy, *Papaver rhœas*.—The P. rhœas is enumerated by Clot-Bey and Figari, among the plants long known in Egypt.

The πευκη ημερος of Theophrastus is usually referred to the stone pine of the Mediterranean, *Pinus pinea*. Nicander and Virgil likewise mention the stone pine; and Athenæus speaks of the import of the nuts into Egypt.—I have found no reference to the presence of the living plant in either Syria or Egypt.

The σημυδα of Theophrastus, according to the received opinion and the modern Greek usage, is the *birch* (Betula alba).—Clot-Bey and Figari enumerate the birch among the trees planted in the gardens of Cairo.

The σφενδαμνος of Theophrastus, according to the received opinion and the modern Greek usage, is the *maple* (Acer campestre).—

The A. campestre is enumerated by Clot-Bey and Figari among the trees planted in the gardens of Cairo.

The καρυα Περσικη of Theophrastus appears to be the *walnut* (Juglans regia): and indeed Pliny refers to the Greek name of the walnut for proof that the tree was originally brought from Persia.—The plant is regarded as of recent introduction in Egypt; but its name "gios" indicates a knowledge of at least the fruit. Walnut trees were seen by Hasselquist at Jerusalem.

The καστανεικον καρυον of Theophrastus, according to the received opinion and the modern Greek usage, is the *chestnut* (Castanea vulgaris): a tree originally foreign to Europe, as appears from the testimony of Pliny and others; and expressly enumerated among objects of cultivation by Virgil. Chestnuts are mentioned by Athenæus, who, I believe, wrote in Egypt; but I am not aware that the living plant has been seen in that country.

The κερασος of Theophrastus, according to the received opinion and the modern Greek usage, is the *cherry*. Pliny states that the cherry "was first brought from Pontus into Italy in the 680th year of Rome;" and he also alludes to the fact (confirmed abundantly at the present day) that the culture of the cherry does not succeed in Egypt.

The βουμελια of Theophrastus, mentioned as occurring in Egypt, may be compared with the *Fraxinus ornus*;—a tree having a native name, and well known in Egypt at the present day. Delile met with seeds in the shops at Cairo.

The φιλλυρεα of Theophrastus and Dioscorides, according to the received opinion and the modern Greek usage, is the *Phyllirea*. The κυπρος of Pliny and of the modern Greeks may also be compared.—The P. latifolia is enumerated by Clot-Bey and Figari among the foreign plants cultivated in the gardens of Cairo.

The ακτη of Theophrastus, according to the received opinion and the modern Greek usage, is the *Sambucus nigra*.—The S. nigra is enumerated by Clot-Bey and Figari among the plants long known in Egypt.

The Αλεξανδρεια δαφνη of Theophrastus, or the "carpophyllon" of Pliny, is referred by Parkinson to the *Ruscus hypophyllum*.—This plant was found by Delile in the gardens of Cairo.

The κικις, mentioned by Theophrastus as a Leguminous tree, may be compared with the *Cercis siliquastrum*.—This plant, according to Clot-Bey and Figari, is cultivated in the gardens at Cairo.

The edible *caper* is, in Egypt, called "kabbar." The καππαρις of Theophrastus, Pliny, and Martial may be compared.

The ἀγνος of Theophrastus and Pliny, according to the received opinion and the modern Greek usage, is the *Vitex agnus-castus*.—The genus Vitex appears to be properly tropical, and, of course,

foreign originally to the Mediterranean countries. The V. agnus-castus is enumerated by Forskal and others among the garden plants of Egypt.

The ροδωνια of Theophrastus is referred by Fee to the *Nerium oleander:* and, according to the received opinion and the modern Greek usage, the ροδοδαφνη of Dioscorides and Pliny is the same plant.—The oleander is enumerated among the garden plants of Egypt, and is said to abound in Syria in a seemingly wild state. The plant, however, does not accord with the natural vegetation of the Mediterranean countries; and I have seen it truly indigenous, on the banks of the Godaveri, in the Dekkan.

The μηλον Μηδικον and Περσικον, described by Theophrastus as "having thorns, and bearing at all seasons a fruit which is not eaten," seems to correspond with the *sweet lemon* (Citrus medica). Dioscorides, moreover, expressly states that the fruit is oblong.—That the sweet lemon preceded the other species of Citrus in the Mediterranean countries, may even be inferred from the cultivation of the plant along the Persian Gulf.

According to the received opinion, the κερωνια, mentioned by Theophrastus as existing in Egypt, is the *carob tree* (Ceratonia siliqua). Pliny states that this tree is "found in Ionia and Syria, but not in Egypt."—And, indeed, it is rare in the latter country at the present day. The Ceratonia has appeared to me to be foreign to the natural vegetation of the Mediterranean countries.

Pepper (Piper nigrum) is mentioned by Theophrastus and by Pliny; the dried berry being imported from India, or, perhaps originally from the Malay countries.—I saw in the Thebaid a quantity of black pepper, that had been imported by the way of Mecca.

Cardamum seeds (Amomum cardamomum) are mentioned by Theophrastus and by Pliny.—This spice, at the present day, is very generally used in the Arab countries; and I met with a quantity that had been imported from India by the route of the Thebaid.

The ανδραχνη of Theophrastus, according to the received opinion and the modern Greek usage, is the *purslain* (Portulaca oleracea). This plant is mentioned also by Pliny;—and is regularly cultivated in Egypt at the present day. The genus Portulaca has appeared to me to be properly tropical, and foreign to the natural vegetation of the Mediterranean countries.

The "black-fruited στρυχνος" of Theophrastus may be compared with the *Solanum nigrum.*—This plant has been found in Egypt by Forskal, Delile, and others.*

* The "red-fruited στρυχνος" of Theophrastus may be compared with the

The μελιτεια of Theocritus, according to Fee, is the μελισσοφυλλον of Dioscorides, the "apiastrum" of Varro and Pliny, and the *Melissa officinalis*.—Hasselquist met with this plant both in Palestine and in Egypt.

The "pomum" of Cato (who "died B. C. 149"), and of Virgil, according to the received opinion, is the *apple* (Pyrus malus).—The apple appears to be a native of Europe; but it is commonly cultivated in the Arab countries, notwithstanding the inferior quality of the product.

The "rapum" of Cato and Pliny, according to the received opinion, is the *turnip* (Brassica rapa): and, according to the modern Greek usage, the "bunias" of Columella and Dioscorides is the same plant.—Various modern writers speak of the cultivation of the turnip in Syria and Egypt.

The "scamoneum" of Cato and Vegetius, according to the received opinion, is the scammony.—*Convolvulus scammonia*, the plant which affords this drug, was seen in Egypt by Hasselquist.

Nicander ("B. C. 137") describes the *pistachio-nut* (Pistacia vera): and Pliny states, that the plant was brought from Syria into Italy a little before the death of Tiberius ("A. D. 37").—According to Clot-Bey and Figari, the P. vera is now commonly cultivated in Egypt.

The "nasturtium" of Varro and Columella is usually referred

Solanum dulcamara.—This plant is figured by Mathioli; but I have not found it mentioned as existing in Egypt.

The παιωνια of Theophrastus, Dioscorides, and Pliny, according to the received opinion and the modern Greek usage, is the garden *peony*.—I have not found this plant mentioned as existing in Egypt.

Theophrastus had heard of "red lilies;" and this appears to be the earliest notice of the *Lilium martagon*. Belon met with the L. martagon at Constantinople. I have not found the plant mentioned as existing in Egypt.

The παρθενιον, enumerated among edible plants by Theophrastus, may be compared with the *Mercurialis*; a reference favoured by the modern Greek usage, as well as by a statement of Cato. Hasselquist met with the M. annua in Palestine, but I have found no species of Mercurialis mentioned as existing in Egypt.

The ρα or ρηον, mentioned by Theophrastus as brought from beyond the Bosphorus, is by some writers considered to be *garden rhubarb* (Rheum raponticum). The garden rhubarb is figured by Parkinson (A.D. 1640); but I have not found the plant mentioned as existing in Egypt.

The λαπαθον of Theophrastus and Pliny may be compared with the *Rumex patientia*. This plant is still cultivated as an esculent in Europe; but I have not found it mentioned as existing in Egypt.

The τραγοπωγων of Theophrastus and Pliny, according to the received opinion and the modern Greek usage, is the *salsify* (T. porrifolius). I have not found this plant mentioned as existing in Egypt.

to the *water-cress* (Nasturtium officinale). And, according to the modern Greek usage, the σισυμβριον ετερον of Dioscorides is the same plant.—The water-cress is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

The "lutum" of Virgil (who died "B. C. 19") is referred by Fee to the *Reseda luteola.*—The R. luteola is enumerated by Forskal and others among the plants regularly cultivated, and used for dyeing in Egypt.

The *Celtis australis,* according to Fee, is mentioned by Virgil, Dioscorides, Pliny, and Galen.—Belon met with the C. australis in Syria; and, according to Clot-Bey and Figari, the tree has been recently introduced into the gardens of Cairo.

The "fraga" of Virgil, according to the received opinion, is the *strawberry* (Fragaria vesca). The F. vesca is said to be mentioned by Nicolas Myrepsicus (who lived in "the 13th century"), and under the name now given to the plant in Greece.—The introduction of the strawberry into Egypt will be noticed hereafter.

The "eruca" of Ovid, Columella, and Pliny, according to the received opinion, is the *Brassica eruca.*—Alpinus and Forskal enumerate the B. eruca among the cultivated plants of Egypt.

Rice (Oryza sativa), as a production of India, is mentioned by Theophrastus; and some centuries later, as appears from Horace, Strabo, Dioscorides, and from the Jewish Mishna, the plant was introduced into Syria and Egypt.

Certain Indian weeds appear to have accompanied the culture of rice into Egypt; and being inconspicuous plants, they may have been overlooked by ancient writers. The plants alluded to are—the *Sphenoclea;* the *Sphæranthus;* a species of *Grangea;* the *Eclipta erecta;* the *Ethulia conyzoides;* the *Jussiæa diffusa;* the *Elatine verticillata;* the *Ammania auriculata* and *A. Ægyptiaca;* the *Cyperus articulatus, C. alopecurus,* and *C. dives;* and the *Panicum colonum;* all found by Delile in the rice-grounds of Egypt.

Croton tinctorium (a plant used for dyeing) was possibly introduced, in like manner, with the culture of rice.—I met with the C. tinctorium in the Thebaid, growing as a weed in cultivated ground; and it occurs on the northern shores of the Mediterranean, as appears from Camerarius and Forskal.

Dioscorides and Pliny both mention the *Pistia stratiotes,* an aquatic plant, possibly introduced into Egypt with the culture of rice, though more probably derived without human intervention from Equatorial Africa. The Pistia was found in Sennaar by Cailliaud.

"Kolgas" is the current name of the *Arum* cultivated in Egypt (C. antiquorum). The "colocasia" of Columella and Pliny may

be compared. I did not meet with this plant, but it is considered to be distinct from the C. esculenta.

The "caltha" of Columella and Pliny is referred by Fee to the *Calendula officinalis*.—This plant, according to Forskal and others, is indigenous in Egypt; but Delile met with it in gardens at Alexandria.

The "chærophyllum" of Columella, according to the received opinion, is the *Chærophyllum sativum*.—Forskal met with this plant in the gardens of Cairo.

It has been suggested, that the "mustard-tree" of the New Testament is the *Salvadora Persica*.—And there are reasons for suspecting that this tropical tree has been actually introduced into Egypt and Palestine, though there is some confusion respecting it in the accounts of writers.

We next arrive at the writings of Dioscorides and of Pliny. And the death of Pliny on the occasion of the destruction of Herculaneum and Pompeii ("A. D. 79") forms a convenient epoch on account of the direct evidence of seeds and fruits exhumed at those places. These seeds and fruits are now in the Museum at Naples, but I have not met with any published list of them.

The *αρνογλοσσον* of Dioscorides, according to the received opinion and the modern Greek usage, is the *Plantago major*.—The P. major is enumerated by Forskal, Delile, and others, among the weeds of Egypt.

The *σογχος* of Dioscorides, according to the received opinion and the modern Greek usage, is the *Sonchus oleraceus*.—The S. oleraceus is enumerated by Forskal, Delile, and others, among the weeds of Egypt.

The *καπνος* of Dioscorides, according to the received opinion and the modern Greek usage, is the *Fumaria officinalis*.—The F. officinalis is enumerated by Forskal, Delile, and others, among the weeds of Egypt.

The *αλκεα* of Dioscorides, according to the received opinion, is the *Malva alcea*.—The M. alcea is enumerated by Clot-Bey and Figari among the plants indigenous to, or at least long known in, Egypt.

The *ελελισφακος* of Dioscorides, and of writings attributed to Hippocrates, according to the received opinion and the modern Greek usage, is the *Sage* (Salvia).—The S. officinalis is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

The *σκορδιον* of Dioscorides, according to the received opinion and the modern Greek usage, is the *Teucrium scordium*.—This plant, according to Clot-Bey and Figari, has been recently introduced into Egypt.

The *μαουν* of Dioscorides is usually considered to be the *Teucrium*

marum.—According to Clot-Bey and Figari, this plant has been recently introduced into Egypt.

The φλομος of Dioscorides, according to the received opinion, is the genus *Verbascum*.—The V. sinuatum is enumerated by Clot-Bey and Figari among the plants indigenous to, or at least long known in, Egypt.

The πολυγονον of Dioscorides, according to the received opinion and the modern Greek usage, is the *Polygonum aviculare*.—This plant was found in Egypt by Delile.

The ιππολαπαθον and οξυλαπαθον of Dioscorides, according to the received opinion and the modern Greek usage, are species of *Dock* (Rumex).—According to Forskal, the R. obtusifolius has a native name in Egypt.

The οξαλις of Dioscorides, according to the modern Greek usage, is the cultivated *sorrel* (Rumex acetosa).—This plant, according to Clot-Bey and Figari, has been recently introduced into Egypt.—The *R. acetosella*, however, was found by Hasselquist at Damietta.

The ελξινη of Dioscorides, according to the received opinion and the modern Greek usage, is the *Parietaria officinalis*.—The P. officinalis is enumerated by Clot-Bey and Figari among the plants indigenous to, or at least long known in, Egypt.

The ελξινη κισσαμπελος of Dioscorides, according to the use of the term by the modern Greeks, is the *Convolvulus arvensis*.—The C. arvensis is enumerated by Delile among the weeds of Egypt.

The πεπλος of Dioscorides, according to the received opinion and the modern Greek usage, is the *Euphorbia peplus*.—The E. peplus is enumerated by Forskal, Delile, and others, among the weeds of Egypt.

The λαθυρις of Dioscorides, according to the received opinion and the modern Greek usage, is the *Euphorbia lathyris*.—This plant, according to Clot-Bey and Figari, has been recently introduced into Egypt.

The αειζων μικρον of Dioscorides, according to the received opinion, is the genus *Sedum*.—Forskal met with a species of Sedum in the gardens of Cairo.

The βουφθαλμος of Dioscorides is usually referred to the *Chrysanthemum segetum*.—Forskal met with this plant in Egypt.

The παρθενιον of Dioscorides, according to the received opinion and the modern Greek usage, is the *Matricaria chamomilla*.—This plant was found by Hasselquist both in Palestine and in Egypt.

The τριβολος of Dioscorides, according to the use of the term by the modern Greeks, is the *Centaurea calcitrapa*.—Forskal and others have met with this plant in Egypt, where, however, it is possibly indigenous.

The βουγλωσσον of Dioscorides, according to the received opinion and the modern Greek usage, is the *Anchusa officinalis*.—The A. officinalis is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

The αγχουσα of Dioscorides, described as "staining the hands," may be compared with the *Echium rubrum*.—A plant found by Forskal at Alexandria, but which is possibly indigenous.

The πετροσελινον of Dioscorides and Pliny, according to the received opinion and the modern Greek usage, is the *parsley* (Petroselinum sativum).—The parsley is enumerated by Forskal and others among the plants cultivated at the present day in Egypt.

The καρος of Dioscorides and Pliny, according to the received opinion, is the *caraway* (Carum carvi) ;—a plant at the present day commonly cultivated in Egypt.

The σμιλαξ κηπαια of Dioscorides is usually considered to be the *kidney-bean* (Phaseolus vulgaris).—This plant is figured by both Mathioli and Dodonæus. And De Soto (A.D. 1542) in speaking of the "kidney-beans cultivated by the aboriginals of Florida" alludes to those of Spain.—Forskal is the only writer I have met with who mentions the presence of the P. vulgaris in Egypt.

The γλυκυρριζα of Dioscorides and Pliny, according to the received opinion, is the *liquorice* (Glycyrrhiza glabra).—Forskal and other modern travellers have met with this plant under cultivation in Egypt.

The κολχικον of Dioscorides is usually considered to be the *Colchicum autumnale*.—The C. autumnale is enumerated by Clot-Bey and Figari among the plants indigenous to, or at least long known in, Egypt.

The κυπρος of the modern Greeks appears to be either the Phyllirea or the Ligustrum vulgare ; and I have been unable to trace the latter plant to Egypt. On the other hand, the account by Dioscorides of the Egyptian κυπρος, the "bruised leaves of which redden the hair," corresponds in many respects with the *henna* (Lawsonia). I have not found the use of henna represented on the Egyptian monuments ; but some of the mummies are said to have their nails stained with this substance.

The *Ricinus*, or castor-oil plant, is distinctly described by Dioscorides, and is spoken of by Pliny as a plant not long known in Egypt. It was doubtless brought from India, or perhaps originally from the Malay countries.

The αλικακαβος of Dioscorides and Pliny, according to the received opinion and the modern Greek usage, is a species of *Physalis*. Pliny, moreover, mentions the plant as existing in Egypt.—The P. somnifera has been found in Egypt by Forskal, Delile, and other modern travellers.

The αλοη of Dioscorides and Pliny is evidently the *aloe* plant.

The drug obtained from this plant is also mentioned; and as "imported from India," though doubtless originally derived from Socotra and the Somali country.—Forskal, Delile, and others, have seen living plants of the A. vulgaris in the gardens of Cairo.

Dioscorides and Pliny both mention the *ginger*, referring to the dried root imported from India, or possibly from the Comoro Islands. In reference to the latter place of origin, the following statement of Cailliaud may be compared: That ginger "is rare at Quamamil (on the Bahr el Abaid), is called by the Negroes 'zymbane,' and comes principally from Abyssinia."

Pliny speaks of a *sensitive plant* as existing in Egypt, doubtless exotic, and probably derived from India.

The "sebesten" of Pliny is usually considered to be the *Cordia crenata*.—This is another tropical plant introduced into and still cultivated in Syria and Egypt.

The *peach* (Amygdalus Persica) is not mentioned by Virgil; but a century later we find this fruit well known in Italy; and it is figured in the Herculaneum paintings. Pliny mentions the peach as existing in Egypt,—where at the present day it is commonly cultivated.

The *apricot* (Prunus Armeniaca) is at the present day a favourite object of cultivation in the Arab countries, and is called "mish-mish." The myxa of Pliny may be compared.

The "gariophyllon" of Pliny, according to the use of the term by the modern Greeks, is the Carnation, *Dianthus caryophyllus*:—a favourite ornamental plant, and frequently kept in pots by the Arabs at the present day.

Sugar is mentioned by Pliny and Galen, but only as "a production of Arabia and India." The living plant, or the *Sugar-cane*, does not appear to have been introduced into Egypt until a more recent period.*

5. *The Time of the Early Christians; or the Coptic Period.*

Egypt seems to have been the first country that embraced Christianity; but even here the progress of the new religion was gradual, and the converts had not acquired much influence by

* The "siser" of Varro and Columella is usually considered to be the *skirret* (Sium sisarum).—This plant is abundantly cultivated in Europe at the present day; but I have not found it mentioned as existing in Egypt.

The "inula" of Pliny (the art of cooking which is said to have been taught by Horace) is considered to be the *elecampane* (Inula helenium).—Belon speaks of the root of the I. helenium being prepared for the table at Constantinople. I have not found the plant mentioned as existing in Egypt.

The "amarantus" of Pliny is referred by some writers to the *Celosia cristata*.—I have not found this plant mentioned as existing in Egypt.

their numbers prior to A. D. 100; a date which may be conveniently assumed as the commencement of the period under consideration.

Egypt now no longer offers temples reared by princes; yet some constructions of the early Christians abundantly prove that architectural taste had not become extinct; while remains of their villages in the Thebaid show more refinement in the style of living than exists among the present occupants of the country. Another point of interest is found in the fact, that the early Christians did not destroy the antiquities.

Both Virgil and Pliny speak of silk, and thus reveal the dawning of intercourse with China. A little later ("A. D. 130") Ptolemy, the geographer, gives a distinct notice of the Chinese, under the name of Seres. The deposit of articles of Chinese manufacture in the Egyptian tombs is probably not more ancient; and the same may be said of the accompanying eye-paint bottles manufactured on the Persian Gulf.

The Emperor Heliogabalus ("A. D. 229") is said to have been "the first Roman who wore a dress of silk;" and it is also on record that the *silk-worm* was introduced into the Mediterranean countries in "A. D. 551."

The silk-worm was, of course, accompanied by the *white mulberry* (Morus alba). Indeed, Pliny, when remarking "that all berries in the end turn black," would not have instanced the mulberry, had he been acquainted with the M. alba. The white mulberry is now common in Egypt.

Cocculus Indicus, the imported article, seems to be mentioned by Aretæus (who is supposed to have lived prior to A. D. 420).

Cloves are mentioned by Paulus Ægineta, brought, of course in the dried state, from the Molucca Islands.—I saw in Egypt a quantity of cloves that had been imported by the way of Mecca and the Thebaid.

Nutmegs, μοσχοκαρυα, another production of the Moluccas, were probably imported into the Mediterranean countries as early as the Coptic period.

The σενε of Actuarius is doubtless the *senna* of commerce. According to Wilkinson, leaves and fragments of senna have been found in ancient Egyptian tombs. The species is not mentioned; but Cassia lanceolata furnished all the senna I saw in the warehouses of Mocha and Muscat.

The *Cassia obovata*, which furnishes a portion of the senna of commerce, is figured by Mathioli. I saw this plant in the Botanic Garden at Cairo, and also seemingly indigenous near Suez, which place, however, is on a caravan route. Forskal met with the C. obovata in the desert near Cairo, and gives "sænna of the Hedjaz" as its Egyptian name.

The medicinal *rhubarb* seems to be mentioned by Paulus Ægineta, the drug being probably imported by the caravans through the interior of Asia. Barthema or Vertoman (A. D. 1503), speaks of rhubarb being sold at Korasan.

I have not found figures of the *dourra* (Sorghum vulgare) on the Egyptian monuments; but I have seen dourra stems intermingled with those of the Papyrus in a parcel exhumed at Saccara, possibly as ancient as the time of the Romans. According to Delile, the dourra is mentioned by Heliodorus, in his account of Meroe.

Dodonæus figures the *Coix lachryma*. Forskal found this plant in Egypt, where it bears a Coptic name, having a scriptural allusion ("dima ayoub"); and this circumstance seems to indicate that the plant was known to the early Christians. The Coix lachryma is a tropical production derived from India, or perhaps originally from the Malay countries.

The *banana* (Musa sapientum) is mentioned by Serapio, Avicenna, Leo Africanus, and, according to Kasimirski, in the Koran. In the voyage of a Portuguese pilot (who set out A. D. 1520) the banana is mentioned as occurring both at Alexandria and at St. Thomas in the Gulf of Guinea. The banana ripens its fruit freely at Alexandria; and I am informed that it does so in certain situations even in the Azores. I have seen the plant growing in the open air both at Madeira and at Malta.

According to Kasimirski, the *tamarind* is mentioned in the Koran (xxxiv. 15). Cailliaud states that tamarind pods are imported in quantities by the Darfour caravans; and it appears from various authorities that the tree itself has been repeatedly introduced into Egypt.

6. *The Early Muslim Period.*

The Muslims obtained possession of Alexandria in A. D. 641, and for nearly a thousand years Egypt was in a good measure withdrawn from the knowledge of Europeans. Indeed, Europe, during the greater part of this same period, does not afford us much light respecting her own condition; while, amid the general dearth of writers, an occasional picture of the times may be gathered from the works of Arab-Egyptians.

The origin of the so-called "Gothic style of architecture" is rather suspiciously connected with the entrance of the Arabs into Spain. But, leaving this question, the proper Muslim constructions are everywhere of one character, and may be recognised by the dome and the pointed arch. Muslim constructions, some of them very early, are numerous in Egypt; but, owing to the absence of representations of living objects, they hardly afford aid in our present inquiry.

The establishment of the pilgrimage to Mecca doubtless tended to draw closer the commercial relations between India and Europe; and these relations, it should be observed, were entirely in the hands of the Muslims. Indeed, after allowing for some slight divergence on account of Palestine and the route of the Euphrates, all the tropical plants which reached the Mediterranean prior to the discovery of America appear to have arrived by the way of Egypt.

The *buffalo* of India is the most important domestic animal introduced during the early Muslim period. The buffalo is mentioned by Allatafet (A. D. 1453), and the animal is at the present day extremely common in Egypt.

Avicenna (about A. D. 1050) speaks of "Makassar," on the island of Celebes, and likewise of *camphor*, an article of commerce, principally derived from China. According to Clot-Bey and Figari, the camphor-tree (Laurus camphora) has been recently introduced into Egypt.

The *common cucumber* (Cucumis sativus) is in Egypt called "khyar," and under this name is mentioned by Avicenna. The plant appears to have been derived from Hindostan.

The *sandal-wood* (Santalum album) is mentioned by Arab-Egyptian writers; and the living plant, according to Clot-Bey and Figari, has been recently introduced into Egypt.

Turmeric (Curcuma) was probably known in Egypt as an article of commerce during the early Muslim period.

Gum-lac, from Pegu, seems likewise to have been known in Egypt during the early Muslim period.

Uvaria aromatica. The dried fruit is mentioned by Lobel, Mathioli, and Delile, as brought down the Nile from the interior of Africa.

The *Coffea*, or coffee-plant (which grows wild in the region southwest of Abyssinia), is said to have been introduced into Yemen during the thirteenth century. According to Lane, coffee did not form an article of import into Egypt until about A.D. 1500. Alpinus met with the coffee-plant in the gardens of Egypt; and, recently, it has been again introduced, as appears from a statement of Clot-Bey and Figari.

Cocoa-nuts are mentioned by Serapio and Avicenna. I saw in Egypt a quantity of cocoa-nuts that had been imported by the route of the Thebaid.

The *pea-nut* (Arachis hypogea) was probably known in Egypt during the time of the early Muslims. The plant is mentioned in the work of Purchas (A.D. 1620) as cultivated in Equatorial Africa.

The *Spinach* (Spinacia oleracea) is figured by Mathioli, and is said to be mentioned by Serapio. Alpinus, Forskal, and others enumerate the spinach among the esculent plants of Egypt.

Chenopodium. C. album, C. rubrum, and C. flavum, were found in Egypt by Forskal.

Corchorus olitorius, is mentioned by Allatafet (A.D. 1453); and at the present day, is a favourite esculent in Egypt.

The *ochra* (Hibiscus esculentus) was probably cultivated in Egypt during the early Muslim Period. The plant is mentioned by Mathioli; and under its Egyptian name, "bamia."

The *egg-plant* (Solanum melongena) is mentioned by Avicenna; and under its current Egyptian name. It is besides enumerated by Makrizi (in the beginning of the fifteenth century) among the plants cultivated in Nubia.

The *lime* (Citrus limonium) was probably introduced into Egypt during the early Muslim Period. Belon (A. D. 1553) met with the plant at Cairo; and it is figured by Parkinson.

The *lemon* is enumerated by Makrizi among the plants cultivated in Nubia. Lemons are mentioned among the productions of Abyssinia, by Alvarez, who visited that country in A. D. 1520. And Barthema or Vertoman (A. D. 1503) found lemons in Yemen.

The *orange* (Citrus aurantium) is said to have been made known to Europeans by the Crusaders. Cademosto, in his Voyage to Madeira (A. D. 1454), mentions oranges; and Vertoman found them in Yemen. According to Abd Allatif, "seeds of the orange and lemon were brought from India in the three hundreth year of the Hegira, and were sown in Oman."

The *Melia azedarach* is figured by Mathioli. And, according to Clot-Bey and Figari, the tree has been long known in Egypt.

The *Acacia lebbek,* so abundant in the gardens at Cairo, was perhaps introduced during the early Muslim Period. The plant is mentioned by Forskal (A. D. 1762).

The *weeping-willow* (Salix Babylonica), likewise common in the gardens at Cairo, was perhaps introduced during the early Muslim Period. The tree was seen in Egypt by Forskal; and in Palestine by Rauwolf.

The γλυκοκαλαμος of Nicolaus Myrepsicus, according to the use of the term by the modern Greeks, is *Cassia fistula.* This tree is figured by Belon; and it is now common in the gardens of Cairo. The pods, besides, form an article of import by way of Yemen.

Tamarix? Orientalis, is mentioned by Forskal; and I repeatedly met with it planted around the Egyptian villages. It is a large tree, resembling a Casuarina.

Pinus Halepensis was seen by Delile in a garden at Cairo; and, according to Clot-Bey and Figari, the tree has been long known in Egypt.

Cucurbita polymorpha, the cymbling or squash, was perhaps known in the Mediterranean countries during the early Muslim

Period. Clot-Bey and Figari, mention the cultivation of the C. polymorpha in Egypt.

Cucurbita pepo, the pumpkin, was probably known in Egypt during the early Muslim Period. The plant is figured by Mathioli. And De Soto (A. D. 1542) states, that the pumpkins and kidney-beans, cultivated by the aboriginals of Florida, "are larger and better than those of Spain."

Adansonia digitata; the fruit, according to Alpinus and others, is brought into Egypt from the Interior of Africa.

Althea ficifolia was seen by Delile in the gardens of Cairo.

Lavatera arborea was seen by Delile in the gardens of Alexandria.

Hibiscus Syriacus is enumerated by Forskal, Delile, and others, among the garden plants of Egypt.

Hibiscus trionum, a Tropical weed, was found in Egypt by Forskal, and also by Delile. The plant is figured by both Mathioli and Parkinson.

Mathioli figures the *Cardiospermum helicacabum*. This plant was found by Delile in the gardens of Cairo; and by Cailliaud, in Dongola.

Seeds of the *Croton tiglium*, according to Delile, are sold in the shops of Cairo.

Seeds of the *Sapindus ryteh*, according to Delile, are sold in the shops of Cairo.

Seeds of a species of *Chamæriphis*, according to Delile, are sold in the shops of Cairo.

Seeds of the *Datisca cannabina*, according to Delile, are sold in the shops of Cairo.

Seeds of the *Plantago psyllium*, according to Delile, are sold in the shops of Cairo.

Seeds of the *Rhus coriaria*, according to Delile, are sold in the shops of Cairo.

Seeds of the *Amomum grana-paradisi*, according to Delile, are sold in the shops of Cairo.

Seeds of the *Abrus precatorius*, according to Alpinus and Hasselquist, have been sometimes planted in Egypt.

The balsam-apple, *Momordica balsamina*, to all appearance, is mentioned by Avicenna and Abd Allatif. The plant was seen by Delile in the gardens of Cairo.

Momordica pedata was seen by Delile in the gardens of Cairo.

The introduction of the *Sesbania* into Egypt probably took place during the time of the early Muslims. The plant is mentioned by Alpinus, Forskal, and others.

Solanum pseudocapsicum was seen by Delile in the gardens of Cairo.

Capsicum annuum is figured by Mathioli; and is enumerated, by Forskal and others, among the plants cultivated in Egypt.

Datura metel was seen in Crete by Belon (A. D. 1553). The plant is figured by Mathioli; and its introduction into Egypt is probably as ancient as the time of the early Muslims.—*D. fastuosa*, by some writers considered as only a variety, was seen in Egypt by Delile.

Canna Indica is figured by Camerarius (A. D. 1586); and is enumerated by Forskal, Delile, and others, among the garden plants of Egypt.

Narcissus jonquilla is enumerated by Clot-Bey and Figari among the garden plants of Egypt.

A species of *Pancratium* was seen by Hasselquist, and also by Forskal, in the gardens of Egypt.

Polyanthes tuberosa, according to Forskal and others, has a native name, and is a common garden plant in Egypt.

Muscari comosum was observed by Delile growing, seemingly wild, in Egypt.

Cynodon dactylon occurs in Egypt, according to Forskal, Delile, and others; and if not regularly cultivated, it is at least used to some extent for feeding cattle.

Dactyloctenium Ægyptiacum is figured by Parkinson; and is mentioned, by Alpinus and others, as existing in Egypt. This grass, together with the preceding, was probably derived from India.

Crypsis schœnoides was seen in Egypt by Delile.

Crypsis aculeata is figured by Mathioli; and Delile met with the plant in Egypt.

Crypsis alopecuroides was seen in Egypt by Delile.

Setaria viridis is enumerated by Delile among the weeds of Egypt.

Setaria verticillata is enumerated by Delile among the weeds of Egypt.

Echinocloa crus-galli is figured by Mathioli; and the plant occurs in Egypt, according to Forskal, Delile, and others.

Digitaria sanguinale was seen in Egypt by Hasselquist, and also by Delile.

Phalaris Canariensis occurs in Egypt, according to Hasselquist, Forskal, and others.

Lolium perenne was seen in Egypt by Delile.

Lolium temulentum was seen in Egypt by Delile.

Hordeum murinum was seen in Egypt by Hasselquist.

Impatiens balsamina is figured by Mathioli; and is enumerated by Clot-Bey and Figari among the garden plants of Egypt.

Euphorbia tirucalli was seen by Delile in the gardens of Cairo.

Euphorbia calendulifolia (of Delile), according to Clot-Bey and Figari, occurs only in the Pasha's gardens.

Mogorium sambac is figured by Parkinson; and is enumerated, by Forskal and others, among the garden plants of Egypt.

Jasminum officinale has a native name, and is enumerated, by Forskal and others, among the garden plants of Egypt. The genus Jasminum appears to be properly Tropical; and, of course, foreign originally to the Mediterranean countries.

Kalanchoe Ægyptiaca has a native name, and is enumerated, by Forskal and others, among the garden plants of Egypt.

Convolvulus Cairius is enumerated, by Clot-Bey and Figari, among the garden plants of Egypt.

Cuscuta Europea is enumerated by Delile among the weeds of Egypt.

Cynanchum viminale was seen in Egypt by Alpinus.

Vinca rosea is enumerated, by Clot-Bey and Figari, among the garden plants of Egypt.

Lepidium latifolium is enumerated, by Clot-Bey and Figari, among the plants long known in Egypt.

Cheiranthus annuus has a native name, and is enumerated, by Forskal and others, among the garden plants of Egypt.

Ranunculus Asiaticus has a native name, and is enumerated, by Clot-Bey and Figari, among the garden plants of Egypt.

Ranunculus sceleratus was seen in Egypt by Delile.

Nigella damascena is enumerated, by Clot-Bey and Figari, among the plants long known in Egypt.

Adonis æstivalis was seen in Egypt by Delile.

Ruta Halepensis is enumerated, by Delile and others, among the garden plants of Egypt.

Ammi majus is enumerated, by Clot-Bey and Figari, among the plants indigenous to, or at least long known, in Egypt.

Ammi visnaga is enumerated, by Alpinus and others, among the plants of Egypt.

Artemisia dracunculus, the taragon, was seen growing in Egypt by Hasselquist.

Artemisia arborescens was seen by Delile in the gardens of Egypt.

Artemisia Judaica is enumerated, by Clot-Bey and Figari, among the plants indigenous to, or at least long known in, Egypt.

Balsamita vulgaris is enumerated, by Forskal and others, among the garden plants of Egypt.

Conyza odora, according to Forskal and others occurs in the gardens of Egypt.

Cnicus benedictus is figured by Mathioli; and the plant was seen in Egypt by Hasselquist.

Carduus marianus was seen by Belon, at Constantinople; and Forskal and others have met with the plant in Egypt.

Centaurea moschata was seen by Forskal in the gardens of Cairo.

Anthemis grandiflora is enumerated, by Clot-Bey and Figari, among the garden plants of Egypt.

Senecio vulgaris, according to Delile, has been observed in the vicinity of Damietta.

Xanthium strumarium is figured by Mathioli, and is enumerated by Forskal, Delile, and others, among the plants of Egypt.

Psoralea Palæstina was seen by Delile in the gardens of Cairo.

Phaseolus mungo, according to Delile and others, is cultivated in Upper Egypt and Nubia.

Dolichos lablab, according to Alpinus, Forskal, and others, is cultivated for ornament in Egypt and Nubia.

Trifolium procumbens was seen in Egypt by Hasselquist.

Cassia Occidentalis was seen by Delile in the gardens of Cairo.

Cassia absus is enumerated by Alpinus, Hasselquist, Delile, and others, among the plants cultivated in Egypt.

Cassia sophera, according to Delile, has a native name, and is cultivated in the gardens of Cairo.

Rubus fruticosus was seen in Egypt by Delile.

Potentilla supina was seen in Egypt by Delile.

Urtica dioica is enumerated by Hasselquist, and also by Clot-Bey and Figari, among the plants of Egypt.

Urtica urens is enumerated, by Delile and others, among the weeds of Egypt.

Urtica pilulifera occurs in Egypt, according to Delile and others.

Veronica beccabunga is enumerated, by Clot-Bey and Figari, among the plants indigenous to, or at least long known in, Egypt.

Veronica anagallis was seen in Egypt by Delile.

Lamium amplexicaule, according to Delile, occurs in the cultivated grounds of Egypt.

Teucrium Iva was seen in Egypt by Delile.

Verbena officinalis is mentioned by Belon, and is figured by Mathioli. The plant is common in the waste grounds of Egypt, but the genus does not well accord with the natural vegetation of the Mediterranean countries.

Verbena supina occurs in Egypt, according to Forskal and Delile.

Zapania nodiflora occurs in Egypt, according to Delile and others.

Arenaria rubra was seen in Egypt by Delile.

Stellaria media is enumerated by Hasselquist, Forskal, Delile, and others, among the weeds of Egypt.

Oxalis corniculata is figured by Mathioli, and is enumerated by Forskal, Delile, and others, among the weeds of Egypt.

Hibiscus abelmoschus was seen by Delile in the gardens of Cairo.

Sida spinosa was seen in Egypt by Delile.

Sida mutica was observed by Delile in the gardens of Egypt.

Polygonum persicaria is enumerated by Forskal, Delile, and others, among the plants of Egypt.

Polygonum orientale was seen in Egypt by Delile.

Cissus rotundifolia, was seen by Delile in the gardens of Cairo.

Achyranthes argentea was seen by Hasselquist in Palestine, and the plant, according to Forskal, Delile, and others, occurs in Egypt.

Aerva tomentosa was seen by Delile in Upper Egypt, and also in the gardens of Cairo.

Gomphrena globosa is enumerated by Forskal and others among the garden plants of Egypt.

Syringa vulgaris, the lilac, according to Mathioli, was brought into Italy from Constantinople. Parkinson supposes the "blue jasmine" of Serapio, to be the lilac, and quotes Alpinus, but I do not find the plant otherwise mentioned as existing in Egypt.

The *hop* (Humulus lupulus), is said to have been cultivated in Germany during the ninth century. Belon met with the hop at Constantinople, and according to Clot-Bey and Figari, the plant has been recently introduced into Egypt.*

7. *The Modern Muslim Period.*

The Voyage of Columbus took place in A.D. 1492, and from this date, Egypt ceased to be the main or only route through which foreign animals and plants were transmitted to Europe. In the midst, however, of the general change, the influence of the new order of things appears to have very slowly affected the valley of the Nile.

* *Diospyrus lotus* is figured by Mathioli. The plant perhaps reached Europe during the early Muslim period, but I do not find it mentioned as existing in Egypt.

Calystegia sepium is figured by Mathioli. I have not found the plant mentioned as existing in Egypt.

Ribes. I do not find currants nor gooseberries mentioned as existing in Egypt.

Polygonum fagopyrum. Mathioli speaks of the cultivation of buckwheat in Italy. I have not found the plant mentioned as existing in Egypt.

Pastinaca sativa, the parsnip, is figured by Mathioli. I have not found the plant mentioned as existing in Egypt.

Cochlearia armoracia, the horse-radish, is figured by Mathioli. This, too, is a northern plant, which I have not found mentioned as existing in Syria or Egypt. Belon, however, met with it at Constantinople.

Tulipa Gesneriana, the tulip of the gardens, is figured by Camerarius. I have not found the plant mentioned as existing in Egypt.

Althæa rosea is figured by Mathioli. I have not found the plant mentioned as existing in Egypt.

Sida abutilon is figured by Camerarius. I do not find the plant mentioned as existing in Egypt.

Among domestic animals, the most important modern acquisition is that of the *turkey*. In Egypt, the turkey is sometimes called the "Maltese fowl;" a circumstance, indicating that the bird was received by the way of Malta.

Anona squamosa, according to Forskal, Delile, and Clot-Bey and Figari, is successfully cultivated in Egypt.*

Vachellia Farnesiana, is figured by Parkinson, and is enumerated by Clot-Bey and Figari, among the plants long known in Egypt.

Thuya Occidentalis, according to Clot-Bey and Figari, is now cultivated in Egypt.

Celtis Occidentalis, according to Clot-Bey and Figari is now cultivated in Egypt.

Terminalia; two species, according to Clot-Bey and Figari, have been recently introduced, and are successfully cultivated in Egypt.

Sterculia platanifolia, according to Clot-Bey and Figari, is now cultivated in Egypt.

Acer negundo, according to Clot-Bey and Figari, is now cultivated in Egypt.

Robinia pseudacacia, according to Clot-Bey and Figari, is now cultivated in Egypt.

Gleditschia triacantha, according to Clot-Bey and Figari, is now cultivated in Egypt.

Bignonia catalpa, according to Clot-Bey and Figari, is now cultivated in the gardens of Egypt.

Opuntia. Mathioli expressly states, that the cactus was brought in his time from the West Indies. The plant is now common in Egypt.

Bromelia ananas, the pine apple, according to Hasselquist, formerly existed at Damietta; and Clot-Bey and Figari state, that the cultivation of this fruit does not succeed in Egypt.

Fragaria, the strawberry, according to Clot-Bey and Figari, has been recently introduced into Egypt. The species is probably the North American; which, I believe, furnishes the most approved garden varieties.

Psidium, the guava, according to Clot-Bey and Figari, has been recently introduced, and is successfully cultivated in Egypt.

Carica papaya, according to Clot-Bey and Figari, has been recently introduced and is successfully cultivated in Egypt. The plant is figured by Parkinson, who received it from Brazil.

Bambusa arundinacea, according to Clot-Bey and Figari, has

* *Æsculus hippocastanum*, the horse chestnut, was brought to Mathioli from Constantinople; and Clusius also speaks of the plant, a novelty in Europe. I have not found the horse-chestnut mentioned as existing in Egypt.

been introduced, and is successfully cultivated in Egypt. Herodotus mentions the bamboo, but only as a production of India.

Strychnos nux-vomica. The living plant, according to Clot-Bey and Figari, has been recently introduced into Egypt. Delile met with seeds in the shops of Cairo.

Vanilla aromatica. The living-plant, according to Clot-Bey and Figari, has been recently introduced, and has been found to thrive in Egypt.

Thalia dealbata, according to Clot-Bey and Figari, has been recently introduced into Egypt from the Montpellier Garden.

Phytolacca decandra was found naturalised in Egypt by Forskal. Delile also met with the plant in the gardens of Cairo.

Phytolacca dioica, according to Clot-Bey and Figari, has been recently introduced into Egypt.

Zea mays. Whether the maize was introduced into Egypt from the East or from the West, I have met with no evidence that the plant existed in that country prior to the discovery of America. And indeed Rhamnusis (A.D. 1532,) expressly states, that the "maize was first seen in Italy in his time."

Apium dulce. I have met with no evidence that the true celery of the gardens was known in Europe prior to the discovery of America. The plant, according to Clot-Bey and Figari, is cultivated in the Pasha's gardens in Cairo.

Convolvulus batatas, the sweet-potato, was seen by Hasselquist in Palestine; and according to Clot-Bey and Figari, the plant has been recently introduced into Egypt.

Solanum tuberosum, the common potato, according to Clot-Bey and Figari, is sometimes cultivated in Egypt.

Lycopersicum esculentum, the tomato of Peru, is figured by Camerarius; and the plant, according to Clot-Bey and Figari, is now abundantly cultivated in Egypt.

Physalis alkekengi is figured by Mathioli. And according to Clot-Bey and Figari, the plant has been recently introduced into Egypt.

Cleome pentaphylla, according to Cailiaud, is cultivated as an esculent in Dongola. Clot-Bey and Figari enumerate the C. pentaphylla, among the plants employed in Egypt for feeding cattle.

Urtica nivea, according to Clot-Bey and Figari, has been recently introduced from the Montpellier Garden, and is successfully cultivated in Egypt.

Phormium tenax, the New Zealand flax, according to Clot-Bey and Figari, has been recently introduced into Egypt from the Montpellier Garden.

Polygonum bistorta is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Polygonum tinctorium, according to Clot-Bey and Figari, has been recently introduced into Egypt from the Montpellier Garden.

Helianthus annuus is figured by Mathioli, and is enumerated by Forskal and others among the garden plants of Egypt.

Nicotiana tabacum is figured by Camerarius. Tobacco, according to Lane, was introduced into the East about A.D. 1600. It is a remarkable circumstance, that the peculiarity in the customs of society, which more than any other marks the present age, should have been taught by the aboriginals of America.

Nicotiana rustica is figured by Mathioli. According to Delile and others, this and the preceding species of Nicotiana are cultivated in Egypt.

Lantana camara, according to Clot-Bey and Figari, is cultivated in the gardens of Egypt.

Aloysia citriodora, according to Clot-Bey and Figari, is cultivated in the gardens of Egypt.

Tropæolum majus, according to Delile and others, is cultivated in the gardens of Egypt.

Dahlia pinnata, according to Clot-Bey and Figari, was introduced by the French into Egypt.

Pelargonium zonale is enumerated by Clot-Bey and Figari among the garden plants of Egypt.

Pelargonium capitatum is enumerated by Clot-Bey and Figari among the garden plants of Egypt.

Passiflora cærulea is enumerated by Forskal, Delile, and others, among the garden plants of Egypt.

Poinciana pulcherrima is now frequent in the gardens of Cairo. The plant is mentioned by Clot-Bey and Figari, and it was probably derived from India.

Mirabilis Jalapa is enumerated by Hasselquist, Forskal, and others, among the garden plants of Egypt. The name "yimani," indicates that the plant was received by the way of Yemen.

Yucca aloifolia, according to Clot-Bey and Figari, is cultivated by the European residents in Egypt.

Acanthus mollis is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Asclepias procera (Calotropis). I met with this plant in the Botanic Garden at Cairo, and also wild in the desert of the Thebaid.

Asclepias fruticosa (Gomphocarpus) is enumerated by Delile, and also by Clot-Bey and Figari, among the garden plants of Egypt.

Saponaria officinalis is enumerated by Clot-Bey and Figari, among the plants recently introduced into Egypt.

Spilanthes acmella is enumerated by Clot-Bey and Figari, among the plants recently introduced into Egypt.

Tanacetum vulgare, the tansy, is enumerated by Clot-Bey and Figari, among the plants recently introduced into Egypt.

Cacalia Kleinii is enumerated by Clot-Bey and Figari among the garden plants of Egypt.

Tagetes erecta is figured by both Dodonæus and Mathioli; and is enumerated by Forskal, Delile, and others, among the garden plants of Egypt.

Achillea millefolium is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Anthemis nobilis, the chamomile, is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Centaurea cyanus is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Cochlearia officinalis is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Cynoglossum officinale was found in Palestine by Hasselquist. According to Clot-Bey and Figari, the plant has been recently introduced into Egypt.

Borago officinalis, according to Forskal and others, occurs in the gardens of Cairo.

Ligusticum Peloponnense is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Galega officinalis is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Melilotus cærulea is figured by Mathioli; and, according to Clot-Bey and Figari, the plant has been recently introduced into Egypt.

Onobrychis sativa, the sainfoin, according to Clot-Bey and Figari, has been recently introduced into Egypt.

Dracocephalum Moldavicum is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Mentha rotundifolia is enumerated by Clot-Bey and Figari among the plants recently introduced into Egypt.

Plectranthus crassifolia was observed by Delile in a greenhouse at Cairo.

Dioscorea sativa? The yam, according to Alpinus, Hasselquist, and others, has been sometimes planted in Egypt.

Brugmansia candida, according to Graham, was introduced by the way of Egypt into Bombay, in A.D. 1837.

INDEX.

A.

ABABDEH, of the Desert of the Thebaid, 212.
Abd Allatif quoted, 401.
Abies picea, 375.
Aboriginals of Zanzibar, 197.
Abrus precatorius 328, 332, 334, 346, 364, 402.
Absinth, *see* Artemisia absinthium.
Abutilon, *see* Sida.
Abyssinia, account of, by a native of East Africa, 221; table-land of Abyssinia, 311.
Abyssinian race, 228; figured on the Egyptian monuments, 231.
Abyssinians at Singapore, 185, 228; Rarely seen in Egypt, 211, 228; Abyssinians at Zanzibar, 229; Abyssinians at Mocha, 229.
Acacia, 328, 334.
— Nilotica, 351, 364, 379.
— seyal, and A. gummifera, 379.
— lebbek, 401.
Acacia? 355.
Acalypha Caroliniana, 330, 336.
Acanthus mollis, 409.
Acapulco, natives of the vicinity, 112.
Acer campestre, 389.
— platanus, and A. platanoides, 382.
— negundo, 407.
Achillea millefolium, 410.
Achyranthes aspera, 328, 335, 366; — argentea, 406.
Acorns used for food by the Californian tribes, 102, 108, 109.
Adansonia, 350, 363, 402.
Aden visited, 216, 241, 248, 259, 263; diversity of races at, 284, 286.
Adenostemma viscosum, 324, 334.
Adjunta, a city in the Dekkan, 275; the caves in the vicinity, 276, 354.
Admiralty group, natives of, 116, 173.
Adobes, or sun-dried brick, use of, recently introduced into the Hawaiian islands, 85; used by the settlers in North California, 100; used in the Dekkan, 276.
Adonis æstivalis, 404.
Aerva, 365, 406.
Ægineta quoted, 389, 398.
Æschylus quoted, 387.
Æsculus hippocastanum, the horse-chestnut, 407.
Æsop, 291.
Afghans, 247.
Africa, agriculture did not originate in this continent, 311.
African tribes, their fixed habits, 316.
Agati, 324, 333, 341, 364.
Agave, 318.
Ageratum conyzoides, 319, 324, 334, 342, 346, 365.
Agricultural nations, 5, 316.
Agriculture, the art imparted to the aboriginal tribes of Oregon, 16, 24, 29, 266, 310, 317; the art practised, in the absence of soil, on the bare rock, 95; remarks respecting the introduction of the art into Aboriginal America, 113; agriculture among the Feejeeans,

164, 166, 288; in Arabia, 260; in Western Hindostan, 270, 272; origin of agriculture, 308; agriculture introduced from abroad into Africa, 310.
Ahii, in the Coral Archipelago, visited, 56.
Ahmednuggur, a city in the Dekkan, 274.
Aimeo, an island near Taheiti, visited, 68.
Alabastron, 293.
Albinoes, in Aboriginal Mexico, 35; at the Vaitupan coral group, 61; at Taheiti, 67; among the Feejeeans, 171; Albino Negroes, 188.
Alder, *see* Alnus.
Aleurites triloba, the Tutui-nut, 85, 325, 335, 343, 367.
Aleutian Islands, 296.
Allamanda Aubletii, 365.
Allatafet quoted, 400, 401.
Allium porrum, the leek, 362, 378.
— cepa, the onion, 321, 344, 352, 362, 371.
— sativum, the garlic, 362, 371.
— Askalonicum, the shallot, 371.
Almond, *see* Amygdalus.
Almug-trees, 379.
Alnus, the European alder, 382.
Aloe, 222, 367, 396.
Aloysia citriodora, 409.
Alpamarca, mine of, 12.
Alphabet of the Tagala of Luzon, 123; alphabets of Hindostan, 286; of the East Indies, 292; of the Battas of Sumatra, 302.
Altars and sacrifices extant in the East Indies, 291.
Althea officinalis, 389.
— ficifolia, 402.
— rosea, 406.
Amaranthus, 320, 343.
— blitum, 386.
— cruentus, 326, 335.
— tricolor, 332, 335.
Amaryllis aulica, 344.
Ambolambo of Madagascar, 137.
Amboyna, natives of, 183.
America, Aboriginal, state of knowledge in, 294; origin of the population, 296.
Ammania, two species of, 393.
Ammi, 404.
Amomum cardamomum, 391.
— grana-paradisi, 402.
Amulets extant at Zanzibar, 196.
Amygdalus persica, the peach, 78, 320, 342, 349, 351, 397.
Amygdalus communis, the almond, 378.
Amyris opobalsamum, 378.
Anaa, or Chain Island, the centre of navigation in Eastern Polynesia, 56.
Anaans, 156.
Anacardium, 348, 364.
Anacreon quoted, 385.
Anagallis arvensis, 321, 389.
Anchovy, a species taken in quantities at Mocha, 217.
Anchusa officinalis, 396.
Andaman Islands, natives of, 179.
Andes, the Northern and Southern terminations, 8; the Chilian Andes visited, 11; the Peruvian Andes visited, 11, 238, 282; the vegetation on the Andes of Peru, 308.
Andropogon schœnanthus, 332, 337.
Anethum graveolens, 387.
Anguilla, a species at Taheiti, 67.
Anise, 385.
Anointing, the practice of, 293, 358, 374.
Anona squamosa, 340, 349, 363, 407.
Antelope, the American, in California, 108.
— Anoa of Celebes, 314.
Antelopes, figured on the Indian monuments, 355; on the Egyptian monuments, 369.
Anthemis cotula, 320.
— grandiflora, 405.
— nobilis, 410.
Antiquities of Peru, 13; of Oregon, 34; of Yucatan, 36; ancient relics, discovered by Davis and Squier, in the Valley of the Ohio, 37;

antiquities of China, 43; of East Africa, 195; of Malta, 191, 253; of Egypt, 255; of Arabia, 352; of Cabul, and of Persepolis, 353.
Ape, the Cynocephalus, 373.
— the long-nosed, of Borneo, 314.
Apium graveolens, 383.
— dulce, the celery, 321, 408.
Apocynum, or California flax, 108.
Apple, *see* Pyrus malus.
Apricot, *see* Prunus Armeniaca.
Arabian Race, 231.
— Seas, 300.
Arab colonists at Sooloo, 129, 251; at Singapore, 186, 246, 251; at the Comoro Islands and Madagascar, 197; Arabs sometimes visit the Monomoisy Lake, 201; Arabs of the Mediterranean, 253; of the Hedjaz, 259; of Southern Arabia, 259; of Socotra, 265; of North-western India, 265; Arab visiters at Zanzibar, 263; Arab residents in Hindostan, 265; geographical position of the Arab tribes, 316, 399.
Arachis, the pea-nut, cultivated in the Monomoisy country, 203, 347; in Hindostan, 364; in Egypt, 400.
Aramanga, in the New Hebrides, natives of, 175.
Aratika, in the Coral Archipelago, 56.
Araucanians, have no communication with South Patagonia, 8.
Arbutus procera, the bark used by the natives of South-western Oregon, 33.
Arbutus tomentosa, the berries eaten in North California, 109.
Architecture of the Chinese, 42; of the East Indians, 119, 128; of the Feejeeans, 153, 157; of the Eastern Hindoos, 183; of the Arabian Jews, 243; of Armenian emigrants, 245; architecture at Mocha, 266; among the Somali, 216; of the ancient Hindoos, 353, 358, 359; the Gothic style, 399.
Areca, the betel palm, 347, 367.
Arenaria rubra, 405.
Aretæus quoted, 388, 398.
Argemone Mexicana, 340, 349, 363.
Argus pheasant, 314.
Aristophanes, plants mentioned by, 386.
Aristotle quoted, 387, 388.
Armenians, 245.
Armeniaca, *see* Prunus.
Armour worn by the Klamet tribe of South-western Oregon, 33.
Arnotto, *see* Bixa.
Artemisia dracunculus, 404.
— arborescens, 404.
— Judaica, 404.
— species of, in Interior Oregon, 31.
— absinthium, 388.
— abrotanum, 388.
Artichoke, *see* Cynara.
Artocarpus incisa, the bread-fruit, 325, 336, 367; grows only in certain districts at the Hawaiian Islands, 85, 93; constitutes the chief support of the Marquesas Islanders, 98.
Artocarpus integrifolia, the jack-tree, 346, 367.
Arts, some in Oregon, that seem to have been derived from California, 17; seat of the arts on the Indus, 266, 360; origin of the Polynesian arts, 288, 293.
Arum esculentum, *see* Colocasia.
— Rumphii, 330, 336.
Arundo donax, the reed, 370.
Asaua Islands, in the Feejee Group, 161.
Ascension, or Banabe, in the Caroline Group, 62, 115.
Ascetics among the ancient Hindoos, 354.
Asclepias Curassavica, 365.
— procera, 409.
— fruticosa, 410.
Ash, *see* Fraxinus.
Asp, or Cobra, 354, 357, 360.
Asparagus, 367, 389.
Aspen, *see* Populus tremula.
Assyrians, 246.
Astrology, the aboriginal profession of, at the Hawaiin Islands, 91.

Astronomical knowledge of the Taheitians, 63, 67; of the New Zealanders, 78; of the Hawaiians, 91, 298; among the Hindoos, 277; of the Feejeeans, 293.
Athenæus quoted, 387, 389.
Atriplex, 389.
Aubergine, or Egg-plant, *see* Solanum melongena, 321.
Auguries and omens in the modern East Indies, 291.
Aurungabad, a city in the Dekkan, 275.
Australia visited, 74; the European residents, 141, 239; character of the zoological productions of Australia, 313.
Australian race, 74, 139, 283.
— woods have some analogy in Interior Oregon, 26.
Avena sativa, the oat, 320, 321, 388.
Averhoa bilimbi, 363.
Avicenna, quoted, 399, 400.
Azadirachta Indica, 363.
Azederach, *see* Melia.
Aztecas, 34, 113.

B.

Babylonian District, 246.
Babyrussa, 314.
Bacasias of the Andes of Peru, 309.
Balabac Passage, in the East Indies, 131.
Balanites, 374.
Baldness, instances of, among the Somali, 217.
Balm, 378.
Balsamita vulgaris, 404.
Bamboo, 327, 337, 362, 408; at the Tarawan Coral Group, 61; in Luzon, 122; at the Murray Islands, in Torres Straits, 144.
Bamia, *see* Hibiscus esculentus.
Banabe, or Ascension, in the Caroline Group, 62, 115.
Banana, *see* Musa.
Banian Fig, *see* Ficus Indica.
Banians of Cutch, 182, 248, 267, 279.
Barabra of Egypt and Nubia, 211.
Bararata, or the Galla Country, 220.
Barbary Arabs, 246, 251, 252.
Barley, *see* Hordeum.
Barriers of races and nations, 307.
Barringtonia speciosa, 328, 334.
Basalt, blocks of, on a coral island, 58.
Basella tuberosa, 238, 310.
Bashee Islands, in the East Indies, 118.
Basilan, island of, in the Sooloo Sea, 127.
Battas of Sumatra, 302.
Beans, *see* Vicia, Phaseolus and Dolichos.
— cultivated in the Monomoisy country, 203.
Bears in California, 104, 106.
Beasts of burden unknown in the Monomoisy country, 202; beasts of burden among the Brinjarry, 278; in the vicinity of Behring Straits, 317.
Beaver, said to have been formerly numerous in Interior Oregon, 27.
Bedouins of the vicinity of Mocha, 138, 260, 262; of the valley of the Euphrates, 246; of North-western India, 247, 265; of Palestine, 258; Bedouin visiters at Zanzibar, 263; Bedouins of Oman, or of the vicinity of Muscat, 264.
Bees, 377.
Beet, 321, 386.
Behring Straits, the tribes around, 297, 317.
Bellinghausen Island visited, 58.
Belooches, 267.
Bengal Sea, 299.
Benguela tribe, of Western Africa, 207.
Beni-Israel, 243.
Berbers, or Lybians, 257.
Beta vulgaris, the beet, 321, 386.
Betel, used at the Caroline Islands, 115; in the East Indies, 120; in the New Hebrides, and in the Nitendi Group, 299; in East Africa, 346.
Betula alba, 389.
Bhills, 278.

Biche-le-mar, *see* Holothuria.
Bidens trifida, 321.
— odorata, 328, 335.
Bignonia stans, 365.
— catalpa, 407.
Bima, a river of Hindostan, 274.
Birch, *see* Betula.
Birdlime, *see* Cordia myxa.
Birmese, 137.
Bishareen, of the Nubian Desert, 212, 213.
Bixa Orellana, 340, 348, 363.
Blackfeet tribe, inhabiting the Rocky Mountains, 37.
Blankets of North-west America, 17, 317.
Blitum of the Romans, 386.
Blue Mountains of Interior Oregon, 27.
Boerhaavia procumbens, 328, 335, 366.
Boerhaavias, of the Andes of Peru, 309.
Bombax anfractuosum, 347, 363.
Bombay visited, 186, 190, 243, 247, 248; diversity of races at, 284.
Borago officinalis, 410.
Borassus, a flabellate-leaved palm, 55, 60, 323, 336, 367; fans made of, at Tongataboo, 83.
Borneo, Idan of, 43, 126; Dayaks, 126, 306; Wild people of Borneo, 306.
Bornou, 209.
Boswellia, 378, 364.
Bougainville Island, 173.
Bows, used by the natives of Good-success Bay, in Terra del Fuego, 11; used, in some instances, at the Samoa Islands, 73; not used by the New Zealanders, 76; used by the Californian tribes, 104, 109; used by the Shasty tribe, 111; used in the vicinity of Torres Straits, 144; sometimes used by the Feejeeans, 152; used in East Africa, 199, 218; used by the Bhills, and by the ancient Hindoos, 278.
Brama, representations of, 358.
Braminical caves, 357.
Bramins, interview with one at Singapore, 182; no true Bramins in the East Indies, 183; two Bramins, apparently of the Telingan race, seen at Bombay, 186; Mahratta Bramins, 186, 270, 271, 274, 276, 279.
Brass, highly valued by the tribes of East Africa, 202, 206.
Brassica rapa, the turnip, 340, 349, 392.
— eruca, 393.
— oleracea, 321, 340, 384.
— napus, 386.
— campestris, 386.
Brava, a town in East Africa, 193.
Brazil, aboriginals of, 7.
Bread-fruit, *see* Artocarpus incisa.
Brinjarry, of Hindostan, 146, 278.
Briza media, 345.
Bromelia ananas, 337, 348, 367, 407.
Broussonetia, the paper-mulberry, 325, 336.
Brugmansia, 410.
Bruguiera, the fruit eaten at the Feejee Islands, 154.
Bryophillum calycinum, 365.
Buckwheat, *see* Polygonum fagopyrum.
Budhism noticed, 183.
Budhist caves, 353.
Buffalo, the American, unknown in Oregon, except along the skirts of the Rocky Mountains, 27.
Buffalo, the East Indian, 126, 273, 354, 360, 400.
Bugis of Celebes, 134, 183, 292, 299.
Bullocks, at the Hawaiian Group, 93; their introduction at the Feejee Islands, 164, 339; Bullocks, known in the Monomoisy country, 204; among the Galla and M'Kuafi, 220, 223; the cow, venerated by the Hindoos, ancient Egyptians, and early Romans, 268, 280; the Indian bullock, 274, 278, 359; bullocks figured on the Egyptian monuments, 315, 369;

1917
SCHOOL OF THEOLOGY

introduced into North-west America, 320 ; figured in the Braminical caves, 357, 361.
Burdens, mode of carrying in Oregon, 22 ; among the Polynesians and ancient Egyptians, 88 ; in New Zealand and at the Feejee Islands, 88 ; among the Californian tribes, 101 ; among the East Indians, 120 ; among the Feejeeans, 152 ; among the Mahratta Hindoos, 269, 270.
Burial, mode of, on the north branch of the Columbia river, 24 ; and, further north, with the Tahkali tribe, 25 ; among the Chinese, 38 ; among the Californian tribes, 103 ; among the Wakamba and M'Kuafi of East Africa, 200, 223 ; among the Parsees, 248, 249.
Butirinus, a species kept in artificial ponds at the Hawaiian Islands, 88.

C.

Cabbage, 384.
Cabul, people of, 247, 360 ; antiquities of, 353.
Cacalia sonchifolia, 365.
— Kleinii, 410.
Cacti, of New Mexico, 112 ; of the Andes of Peru, 309 ; species of Opuntia, naturalised at the Hawaiian Islands, 342 ; in Hindostan, 364 ; in Egypt, 407.
Cademosto quoted, 401.
Cæsalpinia sappan, 348, 364.
Cairo visited, 255.
Cajanus, the pigeon-pea, 341, 347, 364 ; cultivated in the Monomoisy country, 203 ; and at Zanzibar, 268.
Calabrians, 280.
Caladium, *see* Colocasia.
Calceolarias, of the Andes of Peru, 309.
Calendar of the Taheitians, 67 ; of the Hawaiians, 90 ; of the Soahili, 194 ; of the Parsees and Abyssinians, 194 ; of the Feejeeans, 293.
Calendula officinalis, 394.
California, visited, 99, 238, 282 ; geographical position of, 297.
Californian tribes use water-proof baskets, 17, 102 ; account of these tribes, 98 ; the men devoid of clothing, 102, 107 ; the southern Californians, 112.
Calophyllum, observed at the Tarawan coral group, 61.
Calotropis procera, 409.
Calystegia, *see* Convolvulus.
Camelopard, 224, 231.
Camels, 378, 307 ; used by the Southern Galla, 220, 346 ; in India, 273, 361, 362 ; figured on the Himyaritic monuments, 352 ; the two-humped or Bactrian camel, 387.
Campanula amplexicaulis, 321.
Camphor, 400.
Canadians, residing in Oregon, 21, 24, 25, 32.
Canara language, of India, 272.
Canarium, 331, 333.
Canes, those used in Eastern and Western Arabia, 261.
Canna, 329, 336, 344, 403.
Cannabis sativa, hemp, 362, 385.
Cannibalism, 165, 166, 171, 172, 173, 203, 221, 241, 305 ; cannibalism of the Battas, 303.
Canoes, of the Fuegians, 9 ; of the Chinooks, 17, 296 ; on the Upper Columbia, 24, 29 ; Of the Klamet tribe, in South-western Oregon, 33 ; none seen among the Eastern Paumotuans, 49 ; canoes of the Disappointment Islands, 49 ; of the Anaans, or Western Paumotuans, 56 ; the paddle of the Tarawan coral group resembles that of the Persian Gulf, 62 ; canoes of Pleasant Island, 63 ; of the Samoans, 68 ; of New Zealand, 74, 76 ; of the Tonga Islanders, 80, 83 ; of the Hawaiians, 87 ; of the Californian tribes, 102, 111 ; of Luzon, 121, 123 ; of Sooloo, 127 ; Sampans of the Straits of

Malacca, 132; canoes of the Australians, 140, 141; of the Feejeeans, 148, 149, 153, 154; of the Monomoisy Lake, 201; river-boats in the Godaveri, 274; canoes of Vanikoro, 288; of the North Pacific, and of the Greenland seas, 297; of the Comoro Islands, 301.
Cape Gooseberry, *see* Physalis.
Cape of Good Hope, Malayans at, 136; Negroes at, 190; diversity of races at, 284.
Cape Verd Islands visited, 188, 284, 281.
Caper-bush, *see* Capparis.
Capparis, 390.
Capra Americana, the wool used by the Chinooks, 17.
Capra hircus, the common goat, 361, 369; known in the Monomoisy country, 204, 345; known to the M'Kuafi, 223; landed from a whale ship on the Tarawan coral group, 322; introduction of the goat into the islands of the Pacific, 322, 339.
Capra ibex, 369.
Capricorn, *see* Capra ibex.
Capsella bursa-pastoris, 320.
Capsicum, 318, 325, 332, 335, 343, 346, 366, 402.
Caravan routes, 307.
Caraway, *see* Carum.
Cardamine sarmentosa, 327, 333.
Cardamum, *see* Amomum.
Cardiospermum helicacabum, 324, 332, 333, 402.
Carduus, 405.
Caribs, 113, 114, 288.
Carica Papaya, 319, 325, 335, 346, 365, 408.
Carob tree, *see* Ceratonia.
Caroline Islands, 115, 299.
Carrot, *see* Daucus carota.
Cars of antique pattern in Hindostan, 276.
Carthamus tinctorius, or Dyer's saffron, 365, 381.
Carum carvi, 396.
Caryophyllus, 331, 334.
Caryophyllus, *see* Cloves.
Caryota urens, 367.
Cassada, *see* Jatropha.
Cassia sophera, 405.
— occidentalis, 341, 364, 405.
— tora, 341, 364.
— scandens, 341.
— alata, 364.
— fistula, 364, 401.
— lanceolata, 398.
— obovata, 398.
— absus, 405.
Castanea, the chestnut, 390.
Castes of India, 182, 186, 187, 267, 272, 278.
Castor bean, *see* Ricinus.
Casuarina equisetifolia, 80, 131, 329, 336, 343, 367.
Catacombs of Naples, 280.
Catalpa, *see* Bignonia.
Cato quoted, 392.
Cats, 339, 362, 382; carried from the coast to the Monomoisy country, 204, 349; none among the M'Kuafi, 223; cats among the Arabs, 261.
Cattle, *see* Bullocks.
Cauliflower, 384.
Caves of India, 353.
Celebes, 134, 183, 291, 299, 400.
Celery, *see* Apium dulce.
Celosia cristata, 397.
Celtis australis, 393.
— occidentalis, 407.
Cenchrus calyculatus, 326, 337.
Centaurea calcitrapa, 395.
— moschata, 405.
— cyanus, 410.
Centipede, introduced into the Hawaiian Islands, 339.
Ceram, wild people of, 304.
Cerasus, *see* Prunus cerasus, 320.
Ceratonia siliqua, 364, 391.
Cerbera, 328, 335.
— Thevetia, 365.
Cercis siliquastrum, 390.
Cercopithecus, 369.
Cervus wapiti, the American elk, in California, 104.
Ceylon, notice of, 138.

Chærophyllum sativum, 394.
Chaga tribe, of East Africa, 199, 222, 223, 224.
Chamæriphis, 402.
Charity among the Parsees, 249.
Checkered baskets of Yemen, 261, 373.
Cheiranthus annuus, 404.
Chenopodium album, 317, 320, 401.
— rubrum, and C. flavum, 401.
Cherokees, 114.
Cherry, *see* Prunus cerasus, 320.
Chestnut, *see* Castanea.
Chichorium, the endive, 389.
Chick-pea, or Cicer, 380.
Chief's language among the Polynesians, 89; among the aboriginal Americans, 114.
Chili visited, 11, 189, 235, 281.
Chimikaine, a mission station in Interior Oregon, 26.
Chinese, 38, 118, 145, 281, 283, 284, 299.
Chinooks compared with the Fuegians, 10; described, 14; their mode of flattening the head, 16; of the Lower Columbia, 17; their mats have some analogy with those of the Chinese, 17; the Chinooks are more advanced in the arts than the hunting tribes of North-west America, 18; capture whales, 18.
Chittah, or hunting leopard, 373.
Chory, of East Africa, 219.
Chrysanthemum, 383.
— Indicum, 365.
— segetum, 395.
Cicer arietinum, or chick-pea, 364, 380.
Cicero quoted, 382.
Cimmerian darkness, 308.
Cingalese, 138.
Cinnamon, 184, 359, 378.
Circumcision among the Feejeeans and Polynesians, 153; among the East African tribes, 199, 200, 220, 222, 224.
Cissus quadrangularis, 363.
Cissus rotundifolia, 406.
Citrullus, the water-melon, 342, 351, 365, 371, 372.
Citrus aurantium, the orange, 340 346, 350, 401; local at the Hawaiian Islands, 85; this fruit not eaten by the Banians of Cutch, 268.
Citrus Sinensis, the Mandarin orange, 275, 349, 363.
— torosa, 329, 333.
— decumana, the shaddock, 331, 333, 349, 363.
— the lemon, 340, 350, 401.
— limonum, the lime, 341, 350, 401.
— Medica, the sweet lemon, 350, 391.
Civilisation, traditions respecting its origin in America, 113; four natural centres of civilisation, 311.
Civita Vecchia, 280.
Classet visited, 16.
Cleome pentaphylla, 340, 408.
— spinosa, 340.
Clermont Tonnerre, a coral island, visited, 47.
Climate of the Southern Hemisphere, 9; of Interior Oregon, 23, 25, 26; of New Zealand, 75; of the Hawaiian Islands, 85, 91, 92; of North California, 102; of New Mexico, 112; of Australia, 143; of Western Peru, 237; of the Peruvian Andes, 237; of the Valley of the Nile, the only portion of the tropics known to the ancient Greeks and Romans, 256; climate of Southern Arabia, 217, 218, 260; of Western Hindostan, 272, 274, 276; great variety of climate in tropical America, 312, 313; climate of the equatorial countries, 313.
Clothing in tropical climates, remarks on the subject, 64.
Cloves, 184, 314, 349, 398.
Clubs of the New Zealanders, 76; the club is the favourite weapon of the Tonga Islanders, 80; and of the Feejeeans, 152: clubs used

by the Nubians of the Desert, 214; by the Mussai, 226; by the ancient Hindoos, 355, 357.
Cnicus benedictus, 404.
Coasts, three kinds of, 4.
Cobra, or asp, 354, 357, 360.
Coca, the leaves used by the natives of the Peruvian Andes, 12.
Cocculus Indicus, 398.
Cochin, in Southern Hindostan, 300.
Cochin-Chinese, 136.
Cochineal, 318.
Cochlearia, 406, 410.
Cock-fighting at the Tarawan coral group, 61; at Taheiti, 65; in the East Indies, 120.
Cocoa palm, 323, 332, 336, 344, 346, 352, 367, 400; absent from unvisited islands, 49; is the principal useful plant of the coral islands, 54; neglected at the Hawaiian Islands, 93; extensively cultivated in Luzon, 121; cultivated at the Murray Islands, in Torres Straits, 144; on the coast of East Africa, 198; and in the West Indies, 319.
Codiæum variegatum, 330, 336, 367.
Coffee, 342, 365, 400; wild in the Monomoisy country, 203.
Coix lachryma, 331, 332, 337, 399.
Colaris, 125.
Colchicum, 396.
Colocasia antiquorum, 393.
Colocasia esculenta, 55, 323, 332, 336, 344, 347, 367, 393; in New Zealand, 75; constitutes the chief article of food at the Hawaiian Islands, 87; terraces for cultivating taro at the Feejee Islands, 157, 162.
Colocasia macrorhiza, 55, 323, 336; a safeguard against famine, 89, 153.
Colocasia grandifolia, 368.
Colours, those used by the Chinooks, 18.
Colubrina Asiatica, 327, 333.
Columba, a species of pigeon, kept in captivity at a Polynesian spirit-house, 60, 61.
Columba, the domestic pigeon, 192, 276, 339, 352, 361, 374.
Columbia River, 24, 29, 30.
Columella quoted, 392, 393.
Commelina, 326, 336, 344.
Colville, in Interior Oregon, 26, 320.
Commerce, aboriginal, among the Chinooks, 17; at Taheiti, 67; none among the Australians, 141; aboriginal commerce at Tongataboo, 298.
Comoro Islands, population of, 197; Comoro men make trading excursions into the interior of Africa, 197, 200; the languages at the Comoro Islands, 288.
Compositæ of the Andes of Peru, 309.
Concan, 272.
Conferva, an esculent species at the Hawaiian Islands, 91.
Congo tribe of Western Africa, 207.
Convolvulus batatas, the sweet potato, in New Zealand, and in the other islands of the Pacific, 75, 324, 335; cultivated, without soil, in some parts of the Hawaiian Islands, 95; rare at the Feejee Islands, 153; cultivated in the Monomoisy country, 203, 346; in aboriginal America, 318; in Western Africa, 318; in Yemen, 351; in India, 366; in Egypt, 408.
Convolvulus sepium, 335, 338, 406.
— arvensis, 366, 395.
— scammonia, 392.
— Cairius, 404.
Conyza, 328, 334.
— odora, 404.
Cooking among the Polynesians, 64, 154; among the Californian tribes, 102, 108; among the Feejeeans, 154; among the Galla, 221.
Copal, 206.
Copper, obtained by the natives of East Africa, 206.
Copts, 191, 257.
Coral Islands, account of them, 47; a mode of procuring water at, 60; fire, not seen at certain islands,

61 ; Tongataboo is a coral island, 80 ; elevated coral islands, Metia and Vatu-lele, 57, 161 ; European residents, 59, 62, 238, 282.
Coral shores yield more food to man than the ordinary sea-coast, 295.
Corchorus olitorius, 401.
Cordia crenata, 397.
— myxa, 375.
— sebestena, 323, 335.
Coreopsis tinctoria, 365.
Coriander, 389.
Cornel, *see* Cornus.
Cornucopias, figured on the Indian monuments, 358.
Cornus, the berries eaten by the tribes of Interior Oregon, 30.
Cornus mascula, and C. sanguinea, 382.
Corylus avellana, the filbert, 385.
Costume of the women of Interior Oregon, 23 ; of the Kalapuya tribe, 32 ; of the Eastern Paumotuans, 48 ; of the natives of Pleasant Island, 62 ; of the Samoans, 69 ; of the New Zealanders, 78 ; of the Californian women, 108 ; two styles of costume in aboriginal America, 113 ; costume of the Feejeeans, 151 ; of the M'Kuafi, 223 ; of Chili and Peru, 237 ; of the Parsees, 250 ; of oriental women, 250 ; of the modern Greeks, 254 ; of various nations of antiquity figured on the Egyptian monuments, 256, 257 ; costume of the Arabs, 259, 260, 263 ; and of the inhabitants of the Dekkan, 273 ; costume of the Brinjarry, 278 ; of the ancient Hindoos, 355, 357, 360.
Cotton, 340, 350, 362, 385 ; among ancient Peruvian relics, 13, 318 ; a tradition respecting the culture of cotton in Mexico, 113 ; introduction of cotton into the Mediterranean countries, 385 ; Gossypium religiosum, 324, 333 ; the culture of cotton does not succeed in Equatorial Africa, 349.
Cotula coronopifolia, 330, 334.
Couriers in Southern Arabia, 262.
Cowries, *see* Cyprea.
Cows, *see* Bullock.
Coyota, *see* Wolf.
Crane, the species figured on the Egyptian monuments, 369.
Cree Tribe, 36.
Creek Tribe, 37, 114, 287.
Cress, 393.
Crinum Asiaticum, 330, 336.
Crocodiles at some of the western groups in the Pacific, 70.
Crocus, 374.
Crotalaria, 341.
— quinquefolia, 331, 333.
Croton tiglium, 402.
— tinctorium, 367, 383, 393, 402.
— variegatum, *see* Codiæum.
Crypsis, 403.
Ctesias quoted, 387.
Cucumber, *see* Cucumis.
Cucumis melo, the musk-melon, 321, 351, 379.
— sativus, the cucumber, 321, 351, 364, 400.
— chate, 371, 372.
Cucurbita, of Pliny, 376.
— fœtidissima, 317.
— polymorpha, the squash, 321, 401.
— aurantiaca, 328, 334.
— pepo, 342, 402.
Cuirass of the Klamet tribe of North-west America, 33 ; of the Tarawan coral group, 61 ; of Ombay, 62.
Cuminum cyminum, the cummin, 379.
Cupressus sempervirens, 367, 382.
Cupro, of Pliny, 396.
Curcuma, the turmeric, 325, 336, 400.
Cured meats, aboriginal at the Hawaiian Islands, 88, 91 ; at the Feejee Islands, 154.
Currant, *see* Ribes.
Currency at Mocha, 262, 263.
Cuscuta, 343, 404.

Customs, some introduced from the Missouri into Oregon, 27; some, common to Oregon, Mexico, and South America, 34; some, common to the Chinese and aboriginal Americans, 40, 41; customs of the Tarawan Islanders, 61; of Pleasant Island, 62; of the Taheitians, 63, 67; of the Samoans, 71; of the New Zealanders, 76; of the Tonga Islanders, 82; of the Hawaiians, 87; customs common to the Californians and the Polynesians, 108; to the Polynesians and the aboriginals of the West Indies, 113; customs of the Tagala of Luzon, 118; of the Feejeeans, compared with those of the Polynesians, Hindoos, and Arabs, 84, 151, 152, 153, 159, 293, 358; and with those of Eastern Africa, 174, 214, 216, 217; the custom of perforating the lobe of the ear, 182; customs and penances of the Hindoos, 182, 183; various ancient Egyptian customs, extant at Zanzibar and Mocha, 195, 196, 260; customs of the East African Tribes, 199, 201; of the Tribes of Central Africa, 208; of the Kenoos of Upper Egypt, 212; of the M'Kuafi, 223; some aboriginal customs among the present inhabitants of Peru and Chili, 236; customs of the Arabian Jews, 244; of the Parsees, 248; various customs common to the Hindoos and the ancient Egyptians, 269; Muslim customs in Central India, 274, 275; Arab customs in Malta and in Italy, 253, 280; customs of the ancient Hindoos, 354.
Cutch Banians, 182, 248, 267.
Cycle, the Egyptian or Cynic, 376.
Cydonia vulgaris, the quince, 351, 381.
Cycas circinalis, 332, 336, 346.
Cynanchum viminale, 404.
Cynara, the artichoke, 371.
Cynocephalus, 373.
Cynoglossum, 410.
Cynodon dactylon, 337, 368, 403.
Cyperus, a species, 337.
— esculentus, 383.
— articulatus, C. Alopecurus, and C. dives, 393.
Cypreas monetas, a yellow variety, extravagantly valued in former times at the Hawaiian Islands, 89; cowries used for money in the Thebaid, 212; and at Poona, in the Dekkan, the species being the C. annulus, 273.
Cypress, *see* Cupressus.
Cyprian verses quoted, 384.

D.

Dactyloctenium, 368, 403.
Dahlia, 409.
Dammara, the resin used for glazing pottery at the Feejee Islands, 163.
Dampier's Straits, 144.
Danakil, or Denkali tribes, 218.
Darfour, 208, 209.
Date palm, *see* Phœnix.
Datisca cannabina, 402.
Datura fastuosa, 366, 403.
— metal, 348, 403.
— stramonium, 343.
Daucus carota, the carrot, 321, 389.
Dayaks of Borneo, 126, 306, 307.
Dean's Island, in the Coral Archipelago, visited, 57.
Defensive armour, used by the Klamet tribe of North-west America, 33; used in the Tarawan coral group, 62; used by the Australians, 142; used by the ancient Hindoos, 355.
De Fuca, Straits of, visited, 14.
Deghop, 353.
Dekkan, or the Table-land of Southern India, 272.
Delaware tribe, 37.
Delphinium ajacis, 383.
Demosthenes quoted, 387.
Denkali, or Danakil tribes, 218.

Denkawi language of Central Africa, 208.
Dentalium shells, used for ornament in North-west America, 13, 17.
Desert tribes, 5, 212, 307, 316.
Desmodium, 341.
Desmodium purpureum, 327, 334.
Desmochæta, 328, 335.
De Soto quoted, 396, 402.
Dewlap, an appendage acquired by domestic animals, 310.
Dianthus caryophyllus, the Carnation, 397.
Digitaria sanguinale, 326, 332, 337, 344, 403.
Digitaria ciliaris, 329, 337.
Dioscorea alata, the yam, 80, 154, 329, 336; yams in East Africa, 200, 347.
Dioscorea pentaphylla, 326, 336.
— bulbifera, 326, 336.
— aculeata, 332, 336, 367.
— sativa? 410.
Dioscorides, plants mentioned by, 393.
Diospyrus lotus, 406.
Disappointment Islands visited, 49.
Diseases, of the natives of the Coral Islands, 50, 62; of the Taheitians, 68; of the Samoans, 73; of the New Zealanders, 79; at Tongataboo, 82; of the Hawaiians, 97; of the Californian tribes, 109; of the East Indies, 135; of the Feejeeans, 170; of Western Peru, 237.
Diversity of physiognomy at Cairo, 258.
Diversity of races at Cairo, Singapore, and the other places visited, 258, 281, 284.
Dodona, Oracle of, 192.
Dogs, of the Chinooks, 18; of the Tarawan coral group, 61; dogs perhaps absent in aboriginal New Zealand, 75; dogs at the Hawaiian Islands, 88, 91; not seen among the Californian tribes, 108; known in the Monomoisy country, 204; known to the M'Kuafi, 223; kept by the Brinjarry, 278; figured on the Egyptian monuments, 315, 332, 369; the only quadruped aboriginally introduced into America, 317, 318; dogs aboriginally introduced into the Polynesian groups, 322; figured on the Indian monuments, 360.
Dolichos lubia, 388.
— lablab, *see* Lablab.
Domestic animals, a tendency in them to become particoloured, 273, 310.
Domestic animals and plants, of the Monomoisy country, 203, 204; of the Ethiopian tribes of East Africa, 221, 223; of aboriginal America, 310, 311, 317; of the islands of the Pacific, 322; of Equatorial Africa, 346; of Southern Arabia, 352; of India, 353; of Egypt, 332, 368; of New Zealand, 338; of Australia, 338.
Domestic fowl, 361; at the Tarawan coral group, 61; at Pleasant Island, 63; absent in aboriginal New Zealand, 75; introduction of the domestic fowl into the Mediterranean countries, 332, 374; domestic fowls known in the Monomoisy country, 204, 346; and in the islands of the Pacific, 322.
Dongola, natives of, 211, 213.
Donkeys, 361, 369; none in the Monomoisy country, 204; known to the Galla and M'Kuafi, 221, 223, 224.
Doum-palm, *see* Hyphæne.
Dourra, *see* Sorghum.
Dowlutabad fortification, 276, 353.
Dracæna terminalis, 69, 326, 336, 367.
Dracocephalum Moldavicum, 410.
Dragons, figured on the Indian monuments, 358.
Drays of the Dungur, 279.
Drift-wood, at some coral islands, 59.
Drummond Island, in the Tarawan coral group, 62.
Dryobalanops, or precious camphor tree, 314.

Ducks, 339, 348, 372; rearing of, in the East Indies, 121; no tame ducks in the Monomoisy country, 204.
Dules, a species kept in artificial ponds at the Hawaiian Islands, 88.
Dungur, 279.
Durio zibethinus, 349.

E.

Ear, the custom of perforating the lobe, 182.
Earthquakes, 237.
East Indies visited, 118; European residents, 118, 128, 240, 283; diversity of races in, 285; advancement of knowledge among the inhabitants, 291.
Ebony, 374.
Echinochloa crus galli, 403.
Echium rubrum, 396.
Eclipta, 332, 334, 342, 346, 365, 393.
Education, universal among the Southern Arabs and the Arabian Jews, 244, 261.
Eel, *see* Anguilla.
Egg-plant, or Aubergine, *see* Solanum melongena.
Egypt visited, 191, 242, 255, 279; diversity of races in, 250, 251, 285.
Egyptian cycle, 376.
— emigrants, 264.
Elæagnus angustifolia, 385.
Elatine verticillata, 393.
Elder, *see* Sambucus.
Elecampane, *see* Inula helenium.
Eleocharis, 332.
Elephant, 222, 223, 275, 354, 357, 360, 374.
Elephanta, caves at, 353, 358.
Eleusine coracana, 221, 348.
— Indica, 329, 332, 344, 352.
Elk, *see* Cervus.
Ellice, or Vaitupan coral group, noticed, 61.
Ellora, caves at, 276, 357.
Elm, *see* Ulmus.
Emigration, from various quarters directed towards the Straits of Malacca, 284; emigration from Africa, 316.
Ende, or Floris, natives of, 174.
Enderby's Island, in the Phœnix coral group, visited, 59.
Endive, *see* Chichorium.
Engraulis, anchovy, 217.
Engraving, the art introduced among the Polynesians, 85.
Entada, *see* Mimosa scandens.
Entellus, 355.
Eoa, in the Tonga group, 79.
Equatorial countries, productions of, 313, 314.
Eragrostis capillaris, 345.
Erinaceus auritus, 369.
Erodium, 321.
Erromango, *see* Aramanga.
Ervum lens, the lentil, 362, 378.
— ervilia, 388.
Erythrina, 327, 334, 350.
Erythroxylon, *see* Coca.
Esquimaux, portraits of, resembling the Chinooks, 19; the Esquimaux again noticed, 44; canoes of the Esquimaux, 296.
Ethiopian race, 210; Ethiopian tribes of East Africa, 198, 199, 211; some of the ancient kings of Egypt Ethiopians, 214; eunuchs, 230.
Ethulia conyzoides, 393.
Etiquette among the Feejeeans, 154.
Eunuchs, 230.
Euphorbia calendulifolia, 403.
— tirucalli, 366, 402.
— tithymaloides, 366.
— peplus, 395.
— hypericifolia, 343.
Euphorbia, 330, 336.
— lathyris, 395.
Euphoria, 331, 333.
Euphrates, inhabitants of the valley, 246, 307, 308.
Europe visited, 252, 280; diversity of races in Europe, 285.
European colonists, 233; among the Polynesian Islands, 62, 238;

at the Feejee Islands, 240; in the East Indies, 241; in Hindostan, 241.
Europeans, 280.
Evil eye, superstition of, 280.
Evodia hortensis, 330, 333.

F.

Faba, 379.
Fa-hian, a Chinese traveller of the fourth century, 184.
Fakaafo, in the Union coral group, 60.
Falkland Islands, not reached by aboriginals, 9.
Fanning's Island, a detached coral island, noticed, 60.
Fans used at Tongataboo, 83; and at the Feejee islands; the flag-shaped fans of Yemen, 261, 358.
Far, of the Romans, 370, 381.
Faselum, of the Romans, 386.
Fazoglo, natives of, 208.
Feejee Islands visited, 148; conversational powers of the Feejeeans, 173; European residents, 148, 239; diversity of races at, 283; state of knowledge at the Feejee Islands, 293; the Feejeeans hold no intercourse with the neighbouring groups, 298.
Fehi banana, of Taheiti, *see* Musa.
Fellahs, or cultivating Arabs, 216, 258.
Fellata, of Central Africa, 226.
Fennel, *see* Fœniculum.
Fenugreek, or Trigonella, 381.
Fern, tufts of, figured on the Pharaonic monuments, 375.
Ficus Indica, the Banian fig, 362.
— a second species of sacred fig, 277, 357, 361.
— tinctoria, 329, 336.
Ficus, 330, 336.
— religiosa, the pipul tree, 348, 352, 367.
— carica, the common fig, 349, 352, 367, 371, 372.
Fig, *see* Ficus.
Filbert, 386.
Fillet, worn by Bedouins, 264.
Fine arts among the Chinooks: the style corresponding in some respects with that of the sculptures of Mexico and Yucatan, 18, 34; fine arts among the Chinese, 41; among the Feejeeans, 152; the decline of art in Egypt, 256.
Fir-trees, *see* Abies.
Fire, prairies burned over, in Western Oregon, 32, 33; fire not seen at certain coral islands, 61; known among the wildest tribes of Borneo, 306.
Fire-worshippers, 248, 251.
Fishing tribes of Terra del Fuego, 8; of North-west America, 14, 317.
Fish-ponds at the Tarawan coral group, 61; at the Hawaiian Islands, 88.
Flagellaria, 331, 336, 347.
Flax, *see* Linum.
Flight of birds, omens drawn from, in the East Indies, 291.
Floris, or Ende, natives of, 174.
Fly, 323, 332; the house-fly absent from the uninhabited coral islands, 49, 58, 323.
Fœniculum vulgare, 342, 387.
Food of the East Indians consists chiefly of rice, 46; of the islanders of the Pacific, consists chiefly of farinaceous roots, 46; of the natives of Pleasant Island, 63; of the New Zealanders, 74; of the Hawaiians, consists chiefly of taro, 88; of the Marquesas Islanders, 98; of the Californian tribes, 102, 310; of the Feejeeans, consists chiefly of yams, 154; of the Southern Galla and M'Kuafi, 221, 224; of the Mussai, 225; of the Cutch Banians, 268; of a Calcutta Hindoo, 268; the quantity of food afforded by coral shores, 295; and by the natural vegetation of different countries, 308.
Fortified villages of New Zealand, 76; of Tongataboo, 81; of the Feejeeans, 162.

Foula, of Western Africa, 226.
Fowler, the profession aboriginal at the Hawaiian Islands, 88.
Fowls at the Tarawan coral group, 61; at Pleasant Island, 63; at the Feejee Islands, 153; absent in aboriginal New Zealand, 76; their introduction into the Mediterranean countries, 375. *See* Domestic fowl.
Foxes in California, 104.
Fragaria, the strawberry, 321, 393, 407.
France visited, 280.
Frankincense, 378.
Franks, or Europeans, 232, 254.
Fraxinus excelsior, 382.
— ornus, 390.
Frigate-bird, *see* Tachypetes.
Fuci, esculent species at the Hawaiian Islands, 91, 92; and likewise a poisonous species, 92.
Fuegians, account of, 9; devoid of clothing, 9; their implements analogous to those of North-west America, 10; the Fuegians compared with other tribes of the Southern Hemisphere, 10, 11.
Fumaria officinalis, 394.
Furcræa gigantea, 344, 367.

G.

Galapagos Islands, character of the zoological productions, 313.
Galega officinalis, 410.
Galen quoted, 393, 397.
Galeopithecus, 314.
Galla tribes, 199, 211, 219.
Gambling among the tribes of Interior Oregon, 30; among the Chinese, 41; among the Californian tribes, 102.
Game rare in Interior Oregon, 27; abundant in North California, 104.
Gardenia Taitensis, 55, 60, 323, 334.
Gardenia florida, 342.
Gardner's Island, in the Phœnix coral group, visited, 58.
Geese, *see* Goose.
Gems do not appear to have been valued in aboriginal America, 14; among the articles of commerce which in ancient times were transported from the greatest distances, 14; Indian Muslims, their traffic in gems, 266.
Genoa, 280.
Geological structure of the Dekkan, and of the Table-land of Oregon, 24, 276.
Geophila reniformis, 324, 334.
Gibraltar visited, 252.
Ginger, *see* Zingiber.
— in the Monomoisy country, 203.
Gipsies, 279, 287.
Gleditschia triacanthus, 410.
Glycine, a species used for poisoning fish at the Feejee Islands, 165.
Glycyrrhiza, liquorice, 396.
Gmelina Asiatica, 366.
Goat, *see* Capra hircus.
Godaveri, a river of Hindostan, 274, 277.
Gomphocarpus fruticosa, 409.
Gomphrena globosa, 366, 406.
Goose, 355, 360, 369; a species inhabiting the crest of the Peruvian Andes, 12; another species, on the high mountains of the Hawaiian Islands, 93; no tame geese in the Monomoisy country, 204.
Gooseberry, *see* Ribes.
Gorputi, or Seroor, a town in the Dekkan, 274, 277.
Gossypium, *see* Cotton.
— religiosum, 324, 333.
Gourd, a species known to the ancient Peruvians, 13; *see* also Lagenaria.
Grain, unknown among the islanders of the Pacific, 46, 294.
Grande Coulée, in Interior Oregon, 25.
Grangea, 393.
Granite of North-west America, 25.
Grape, *see* Vitis.

Grass-seed, used for food by the Californian tribes, 102, 108.
Gratiola ?, 330, 335.
Greece visited, 253.
Greyhound, 315, 369.
Grus, or crane, a species figured on the Egyptian monuments, 369.
Guachos of Patagonia, 235, 237.
Guava, *see* Psidium.
Guinea, natives of, 207.
Guinea-fowl, *see* Numidia.
Guinea-pig, 310.
Gum-arabic, 222, 379.
Gum-lac, 400.
Guzerati Banians, 269; Bramins, 359.
— language, 250.

H.

Hadem, of Southern Arabia, 192; of the island of Zanzibar, 197; of the delta of the Juba, 199.
Hadjerkim in Malta, ruins of, 191, 358.
Halyotis shell, used for ornament, in the Straits of De Fuca, and also in California, 20.
Hamajauwi of Central Africa, 208.
Hameer Arabs, 264.
Harafora tribes, 126, 304.
Hats, worn in wet weather by the maritime tribes of North-west America, 14; the like conical form of hat occurs on the opposite coast of Asia, and in the East Indies, 14; also at the Tarawan coral group, 61; a hemispherical hat or cap worn in the Shasty tribe, 110.
Hawaii, the island visited, 92.
Hawaiian Islands visited, 84; Chinese at, 38; climate of, 85; the natives have shown a remarkable fondness for mathematics, 86; European residents, 84, 238; diversity of races at, 282.
Hayti, 287.
Hazaeen, or the Somali country, 222.
Health in tropical climates, a remark respecting, 64.
Hebrew language, 243, 244, 287.
Hebrews, 241.
Hedera, ivy, 384.
Hedgehog, *see* Erinaceus.
Hedjaz Arabs, 259.
Hedyotis paniculata, 330, 334.
Helianthus, a weed in Oregon, 319.
— annuus, 365, 409.
Hemp, 385.
Henna, *see* Lawsonia.
Herculaneum and Pompeii, 280, 394.
Hernandia sonora, 55, 323, 335.
Herodotus, his account of the Ethiopians quoted, 210, 211, 221, 359; his account of a maritime expedition sent by Darius, 245; of the ancient Persians, 248, 381; of the complexion of the Egyptians, 254; of the Indian bows, 278; of the practice of scalping, 294; of the Calantian Indians, 359; plants mentioned by Herodotus, 371, 385.
Herpestis monniera, 366.
Hervey, or Raratonga group, natives of, 98.
Hesiod quoted, 380, 383.
Heteropogon, 337.
Hibiscus, 331, 333.
— trionum, 402.
— abelmoschus, 327, 406.
— Syriacus, 402.
— tiliaceus (Paritium), 67.
— rosa-sinensis, 327, 333, 363.
— manihot, 333.
— esculentus, the ochra, 350, 401.
Hill-forts of India, 277, 353.
Hilo, on Hawaii, visited, 92.
Himalaya range of mountains, a natural barrier of races and nations, 307.
Himyaritic monuments, 352.
Hindoo customs in North America, 25.
Hindoos, 181, 267; the ancient Hindoos, 353.
Hindostan, Eastern, natives of, 180; European residents in Hindostan, 240, 286; Western Hindostan, 267;

formerly four nations in Hindostan, 272.
Hipponax quoted, 384.
History and literature among the Polynesians, how preserved, 90.
Holothuria, esculent species, at the Feejee Islands, 153; the biche-le-mar, 163.
Homer, the mode of warfare described by him illustrated, 257; Homer seems to allude to India, 359; plants mentioned by Homer, 371, 380.
Honden Island, in the Coral Archipelago, visited, 49.
Honey-bee, 361, 377; honey in the Monomoisy country, 203.
Hoorn Island, sighted, 97.
Hop, *see* Humulus.
Hordeum, barley, 320, 362, 376.
— murinum, 403.
Hornbills, in the East Indies, 125.
Horse, among the tribes of Oregon, 22, 26, 29, 34; the small breed of the East Indies, 122; no horses in the Monomoisy country, 204; none among the M'Kuafi, 223, 225; introduction of horses into Northwest America, 319; into the Polynesian Islands, 339; the horse figured on the Indian monuments, 356, 360; and on the Egyptian monuments, 373.
Horse-chestnut, *see* Æsculus.
Horse-radish, *see* Cochlearia.
Hottentot race, 74, 226.
House-fly, *see* Fly.
Household gods of the Hindoos, 274.
Hoya carnosa, 365.
Hull's Island, in the Phœnix group, 59.
Humulus, the hop, 406.
Hunter's Island, near New Caledonia, visited, 173.
Hunter River, in New South Wales, 140.
Hunting tribes of Terra del Fuego, 10; of Oregon, 21; of North-west America, 36; of ancient America, 38; the hunter state does not exist in New Zealand, 75; it exists in Australia, 142; and in some of the East India Islands, 301, 305.
Hyacinthus, 382.
Hydrocotyle, 324, 334.
Hydrophytes, rare at the coral islands. 47.
Hyksos, period of the, 215, 374.
Hyphæne, the doum-palm, 217, 352, 372.
Hyssopus officinalis, 387.

I.

Ibex, or capricorn, 369.
Ibis, 369.
Idan, of Borneo, 43, 126.
Idolatry, 248, 256, 267, 269, 357.
Igorote, *see* Ygorotes.
Impatiens balsamina, 403.
Implements of the Patagonians, 8; of the Feejeeans, 10, 11; of the natives of Good Success Bay, 10; of the ancient Peruvians, 13; of the Chinooks, 16; of the tribes north of the Chinooks, 20; of the Spokane tribe of Interior Oregon, 26; of the natives of Serle Island, 48; of the natives of the Disappointment Islands, 50; of the Penrhyn Islanders, 52; of the Vaitupan Islanders, 53, 61; of the Tarawan Islanders, 61; of the Samoans, 73; of the New Zealanders, 78; of the Tonga Islanders, 83; of the Hawaiians, 89; of Hoorn Island, 97; of the Raratonga group, 98; of the Californian tribes, 109; of the Shasty tribe, 110; of the Australians, 142; of the Feejeeans, 152; of New Georgia, or the Solomon Islands, 177; of the Soahili, 196; of the ancient Hindoos, 355, 356.
India visited, 269; the antiquities, and the domestic animals and plants, 353.
Indian or Telingan race, 180.
Indigo, 318, 375.
Indigofera, 341.

Indigofera of the Andes of Peru, 309.
Indo-Chinese countries, 136.
Indus River, 266, 308, 360.
Inga, 341.
Innovation, among the Taheitans, 65; among the Samoans, 72; among the New Zealanders, 78, 79; at Tongataboo, 81; at the Hawaiian Islands, 85; rejected by the Australian tribes, 141; innovations at Cairo and Alexandria, 279; the slow progress of innovation in mountain fastnesses and in other secluded situations, 308.
Inocarpus edulis, 327, 333, 341.
Inscriptions, ancient, in the caves of India, 356, 357, 359.
Introduced animals and plants of the Coral Islands, 53; of the Tarawan coral group, 61; of New Zealand, 75; of Luzon, 121; none among the Australian tribes, 141, 142, 143.
Inula Arabica, and I. undulata, 383.
— helenium, the elecampane, 397.
Iowa Tribe, 36.
Ipomæa quamoclit, 366.
— phœnicea, 366.
Iraun, 266.
Iris Florentina, 388.
Iron, obtained and manufactured by the East African tribes, 199, 206, 225; manufactured by the Borneo tribes, 307.
Iroquois tribe, 36.
Irrigation, aboriginal in Peru, 11; and in the Hawaiian Islands, 88.
Italy visited, 280.
Ivory, trade in, 199, 202, 206, 222, 374.
Ivy, Hedera, 384.

J.

Jack-tree, *see* Artocarpus.
Jair caste, of India, 275.
Jambosa vulgaris, 348.
— Malaccensis, 324, 334, 349.
Janga Tribe, of Central Africa, 208.
Japanese, 116, 297.
Jasminum, 365, 404.
— sambac, or Mogorium, 403.
Jatropha curcas, 350, 367.
Jatropha manihot, the cassada, 367; cultivated by the Monomoisy, 203, 348; and in aboriginal America, 311.
Java, 135.
Javelin, the favourite weapon of most of the Polynesian tribes, 48; not used by the New Zealanders, 76; some inferior javelins among the Californians, 104, 108; javelins of the Australians, 142; of the Feejeeans, 152; of the Somali, 217.
Jellab of Egypt, 211.
Jervis Island, a detached coral island, 60.
Jews, 241, 260; the Beni-Israel, 243.
Juari, *see* Sorghum.
Juba River, in East Africa, 199, 206, 215.
Juggernaut, 358.
Juglans regia, the walnut, 390.
Jussiæa diffusa, 393.
— angustifolia, 324, 334.
Justicia purpurea, 330, 335.

K.

Kabyles, 257.
Kaffers of South Africa, 206.
Kagayan Sooloo, an island in the Sooloo Sea, 131.
Kahtan, or Yoktan Arabs, 262, 264.
Kalanchoe Ægyptiaca, 315.
Kalapuya tribe, of Western Oregon, 32.
Kamas root, 27.
Kambinda tribe, of West Africa, 207.
Karens of Birmah, 137, 279.
Karli, the caves at, 273, 277, 353.
Kasangi tribe, of Western Africa, 207.
Kauai, or Tauai, in the Hawaiian group, visited, 91.

Kauri, *see* Dammara.
Kava, *see* Piper methysticum.
Kawaki, in the Coral Archipelago, 56.
Kenneri Caves, 353.
Kenoos of Upper Egypt, 212.
Kidney-bean, *see* Phaseolus.
Kingsmill, or Tarawan coral group, 61.
Klamet tribe, of Western Oregon, 33.
Klickatat tribe, of Western Oregon, 32.
Klings, or Telinga people, 181.
Knowledge, the imparting and geographical progress of, 286, 288, 290.
Kooskoosky, a tributary of the Columbia River, 28.
Koran quoted, 399.
Kordofan, natives of, 208, 209.
Kostan of Nubia, 213.
Kraals of Africa, 207, 279.
Kris of the ancient Hindoos and the modern Arabs, 358.
Krishna, worship of, 277.
Kroo men of Western Africa, 196.
Kshatrya caste of Hindoos, 271.
Kylas, at Ellora, 359.
Kyllingia monocephala, 327, 337, 345.

L.

Labiat. incert., 331, 335.
Lablab, 341, 405.
— vulgaris, 324, 334.
Lactuca sativa, the lettuce, 349, 385.
Ladrone or Marian Islands, 116.
Lagenaria, the gourd, in New Zealand, and in the other islands of the Pacific, 75, 324, 334; in Egypt, 332, 376; in the Monomoisy country, 203, 346; among the M'Kuafi, 223; in aboriginal America, 318; in Yemen, 351; in India, 364.
Lama of Peru, 310.
Lamium amplexicaule, 405.
Lampong, of Sumatra, 135.
Languages, multiplicity of, in Oregon, 23, 30; the analogy with the Mexican, 34; languages of the Californian tribes, 106; two divisions of American languages, 114; language of the Japanese, 118; of the Tagala of Luzon, 123; of the proper Malays, 132; a word common to the natives of Australia and New Britain, 145; the Soahili language, 193; language of the aboriginals of Zanzibar, 197; of the Desert Tribes of Nubia, 212; of the Somali, 218; of the M'Kuafi, 223, 224; affiliation of languages, 233, 234; English language, increasing in Chili, 236; Hebrew language, 243, 244, 287; language of the Parsees, 248, 250; languages of Hindostan, 272; succession of languages in the environs of Naples, 280; extension or imparting of languages, 286; the language used in Hayti, 287; a language of words, hardly needed by certain East Indian tribes, 305, 306.
Lantana, 366, 409.
Lanun of Mindanao, 130.
Lapa, or Oparo, natives of, 98.
Laplanders, 43.
Lapwai, a mission station in Interior Oregon, 28.
Lascars, two seen at Sooloo, 128, 181; Lascars at Manila, 181; at Singapore, 181.
Lathyrus sativus, 388.
Laurus camphora, 400.
Lava, blocks of, on Rose Island, 58; lava-streams on Savaii, in the Samoa group, 70; on Hawaii, 92; of Vesuvius, 280.
Lavandula, lavender, 380.
Lavatera arborea, 402.
Lavender, 380.
Lawsonia, the henna, 351, 362, 396.
Leather, not seen among the Fuegians, 11; manufactured by the Chinooks, 17; another kind, manufactured by the more northern tribes, 20; manufactured by the

Klamet tribe, 33; by the Shasty tribe, 110.
Leeks, 378.
Legends of the Feejeeans, 293
Leghorn, 280.
Lemna, 332, 336.
Lemon, *see* Citrus.
Lemon-grass, *see* Andropogon.
Lentil, 378.
Leonotis leonurus, 368.
Leopard of East Africa, 223; the hunting leopard, 373.
Leopard of India, 275.
Lepidium sativum, 386.
— latifolium, 404.
Lettuce, *see* Lactuca.
Leucus decem-dentatus, 328, 335.
Libyans, or Berbers, 257.
Lichen, an edible species, in Interior Oregon, 26.
Ligusticum Peloponnense, 410.
Ligustrum vulgare, the privet, 396.
Lilac, *see* Syringa.
Lilium candidum, 385.
— martagon, 392.
Lima visited, 11, 189, 236, 282.
Lime, *see* Citrus limonum.
Lindernia, 328, 335.
Linnæus quoted, 383.
Linum, flax, 362, 373.
Lions, sculptured in the ancient Indian caves, 354, 357.
Liquorice, *see* Glycyrrhiza.
Literature of the Polynesians, 90, 293; of the Somali, 218; of the Bugis, 134, 291; of the Parsees, 251; of Madagascar, 291; no literature in Aboriginal America, 294.
Lizards, at the Coral Islands, 59, 323.
Loasas, of the Andes of Peru, 309.
Lobelia, of the Andes of Peru, 309.
Lolium, 403.
Looggoon, a town in the interior of East Africa, 222.
Lote-tree, *see* Ziziphus.
Lousiade, natives of the, 144.
Lovuma River, of East Africa, 205.
Lubia, *see* Dolichos.
Lucerne, *see* Medicago.
Luffa, 351, 376.
Lufijy River, of East Africa, 205.
Lupalaconga tribe, of East Africa, 225.
Lupine, the edible species, 380.
Lupines, of the Andes of Peru, 309.
Luzon, Igorote of, 43; the island visited, 118; Negrilloes of Luzon, 178; diversity of races, 285.
Lycopersicum esculentum, the common tomato, 321, 408.
Lycium, 343.
Lynxes, in California, 104.

M.

Macassar, mentioned by Avicenna, 400.
Madagascar, Malayans of, 137, 196, 197; Telingans of, 187; the Vazimba of, 187, 288; negroes of, 189, 196, 197; languages of Madagascar, 288; character of the zoological productions, 313.
Madder, *see* Rubia.
Madeira, visited, 188, 233, 281.
Magellanic Archipelago, 8, 297.
Mahars, 278.
Mahrattas, 257, 269.
Maize, *see* Zea.
Makamba or Wakamba Tribe, of East Africa, 199.
Makrizi quoted, 401.
Makua tribe, of East Africa, 203, 205, 206.
Malacca, Straits of, emigration towards, 284.
Malayan race, 44, 288; a trace of, among the people of Hindostan, 138.
Malay class of languages, 196, 288.
— Muslims, 124, 125, 132, 137; sometimes visit Mocha, 138.
— Peninsula, a wild tribe of the, 305.
Malikolo, in the New Hebrides group, 177.
Maldive Islanders, 137, 300, 301.
Mallea Rohrii, 329, 333.
Mallow, cultivated in Egypt, 383.

Malta visited, 190, 191, 252, 285; the language of the Maltese, 287.
Malum of the Romans, 381.
Malva alcea, 394.
— sylvestris, and M. verticillata, 383.
Man, in a state of nature, does not exist at the present day, 302; various approximations, 305, 306.
Manabhawa caste of Hindoos, 277.
Manetho quoted, 257, 370, 377.
Manilius quoted, 377.
Mangifera Indica, the mango, 341, 347, 351, 357, 361.
Mango, *see* Mangifera.
Mangroves, at the Tarawan coral group, 61; the fruit of the Bruguiera, eaten at the Feejee Islands, 154.
Manhii, in the Coral Archipelago, 56.
Manila visited, 118.
Mangsi Islands, in the East Indies, 131.
Manua, in the Samoa group, visited, 69.
Manufactures, *see* Implements.
Map, explanation of the accompanying, 4.
Marian or Ladrone Islanders, 116.
Mariscus paniceus, 329, 337.
Maritime intercourse in the Pacific and Indian Oceans, 295, 301.
Maritime tribes of Terra del Fuego, 8; of North-west America, 14; they are more advanced in the arts than the hunting tribes, 18, 20; and more populous, 20; the tribes north of the Chinooks, 19, 20, 307.
Marquesas Islands, natives of, 98; bread-fruit forms the chief support of the inhabitants, 98.
Marriage.—Child marriages among the Parsees and Indian Muslims, 250, 267; second marriages among Hindoos, 272; marriage prohibited in the Manabhawa caste, 277.
Marseilles, 190, 280.
Marsilea, 327, 337.
Martial quoted, 372.
Masks used by the maritime tribes of North-west America, 18, 20; by the ancient Mexicans, 34; and by the Chinese, 41; masks were formerly, in some instances, used by the Hawaiians, 89.
Mastich-tree, 387.
Matricaria chamomilla, 395.
Mats of the Vaitupan coral group, chequered, like some made in the East Indies, 61; mats of the Chinooks, 17; of the Dungur, 279.
Mauai, in the Hawaiian group, visited, 95.
Mauna Kea and Mauna Roa, in the Hawaiian group, 96.
Maurandya, 366.
Maviha tribe, of East Africa, 205.
Mbua, or Sandalwood Bay, in the Feejee Group, 161, 166.
Medicago sativa, 388.
Mediterranean countries, visited, 190, 208, 211, 243, 253.
Melastoma malabathrica, 328, 334.
Melia azederach, 340, 363, 401.
Melilotus officinalis, 381.
— cœrulea, 410.
Melissa officinalis, 392.
Melolo, in the Feejee group, 161.
Melons, *see* Cucumis *and* Citrullus.
Menomeni tribe, 36.
Mentha rotundifolia, 410.
Mentha crispa, and M. pulegium, 387.
Mercurialis, 392.
Mermaids, represented on the Indian monuments, 358.
Merops, 125.
Merremengo, *see* Wakamba.
Metals known to the ancient Peruvians and Mexicans, 13, 113; the countries enumerated in which metals were aboriginally unknown, 13, 14.
Metia, an elevated coral island, 57, 327.
Mexicans, 34; some of their customs common to the Chinese, 41,

42; the Mexicans again noticed, 112.
M'Hiao tribe, of East Africa, 205, 206.
Miami tribe, 36.
Micronesians, 115, 299.
Migrations of the human family, indicated on the map by a dotted line, 4; waves of migration, 290, 294, 308; migrations by sea, 295; two routes of migration in the main Pacific, 299; migrations by land, 302, 317.
Mille, in the Radack coral group, 62.
Millet, *see* Panicum.
Mimosa pudica, 328, 334.
— scandens, 330, 334.
Mimusops hexandra, 365.
Mina, in Western Africa, 207.
Mindanao, in the East Indies, 124, 283.
Mindoro, island of, in the East Indies, 124.
Mineral kingdom absent from the coral islands, 48.
Mint, *see* Mentha.
Mirabilis Jalapa, 321, 409.
Mission-natives among the islands of the Pacific, 55, 69.
Missouri tribes, 27, 36.
Mistletoe, a species abounding in South-western Oregon, 34.
M'Kean's Island, in the Phœnix coral group, visited, 59.
M'Kenzie's Island, in the Caroline group, noticed, 115.
M'Kindo tribe, of East Africa, 205.
M'Kuafi tribe, of East Africa, 199, 222.
Mocha visited, 43, 138, 192, 216, 259; diversity of races at, 285.
Mode of carrying burdens, *see* Burdens.
Mogorium sambac, 404.
Moguls, or modern Persians, 247.
Molasses made from the cocoa-palm at the Tarawan coral group, 62.
Mollugo verticillata, 322.
Molucca Islands, ancient intercourse with, 174, 184, 398.
Momordica balsamina, 350, 376, 402.
— pedata, 402.
Money unknown at the Samoan Islands, 73, 294; aboriginal at the Hawaiian Islands, 89.
Mongolian race, 6; distribution of, 7; possesses three of the four natural centres of civilisation, 311.
Monkeys in the wild state, 125; different species figured on the Indian monuments, 355; and on the Egyptian monuments, 369, 373.
Monomoisy, of East Africa, 201; they have no beasts of burden, 202; incursions of the M'Kuafi, 224.
Monomoisy Lake, 200, 204, 206.
Monsoons, 116, 263, 270, 276, 299.
Morinda citrifolia, 54, 55, 58, 323, 334.
Moringa, 364.
Morus alba, 343, 367, 398.
— nigra, 387.
Moruts, *see* Ygorotes.
Mosquito, introduction of, into the Hawaiian Islands, 339.
Mountaineers of the Feejee Islands, 150, 164, 174; of Arabia, 263.
Mouse, 339.
Movisa, or Wabiza tribe, of East Africa, 203, 204.
M'Sambara tribe, of East Africa, 204.
M'Sigua tribe, of East Africa, 199, 204, 205, 222, 224.
Mugil, mullet, kept in ponds at the Tarawan and Hawaiian groups, 61, 88.
Mulberry, *see* Morus.
Mullet-ponds at the Tarawan coral group, 61; at the Hawaiian Islands, 88.
Mummies, the antiquity of, 384, 389.
Mundjola tribe, of Western Africa, 207.
Murray Islands, in Torres Straits, 144.
Musa, the fehi banana of Taheiti, 65, 66, 329, 336, 344.
Musa sapientum, 81, 115, 326, 332, 336, 344, 347, 352, 356, 361, 399; at the Murray Islands, in Torres

Straits, 144; at the Feejee Islands, 153, 166; in East Africa, 200; in aboriginal America, 319.
Muscari comosum, 403.
Muscat visited, 263; diversity of races at, 284.
Music of the tribes of Interior Africa, 204.
Musk duck, 339.
Musk-melon, *see* Cucumis.
Muslim annual festival, 185.
Muslims, Malay, 124, 125, 132, 137, 301; Muslims of Hindostan, 184, 265, 273; Muslim Negroes, 191.
Mussai tribe, of Eastern Africa, 199, 223, 225.
Mussænda frondosa, 330, 334, 365.
Mustard, 386.
Mutisias, of the Andes of Peru, 309.
Myriogyne minuta, 328, 334.
Myristica moschata, *see* Nutmeg.
Myrrh, 221, 379.
Myrtle, 362, 375.
Mythology of the Otuans, 50, 51; of the Tarawan Islanders, 61; of the natives of Pleasant Island, 62; of the Samoans, 69; of the Hawaiians, 89, 93, 94; of the Feejeeans, 155; of the M'Kuafi, 223, 225; of the Parsees, 249; of a wild tribe in the Malay Peninsula, 305; of the ancient Hindoos, 354.
Myxa of Pliny, 397.

N.

Naples, visited, 280.
Narcissus tazetta, and N. poeticus, 384.
— jonquilla, 403.
Nard, 380.
Nasturtium officinale, 393.
Natick tribe, 37.
Natural history, knowledge of, among the Polynesians, 67, 77.
Navigation, origin of, 288, 289, 295, 300; advanced knowledge of the art among the Polynesians, 298; navigation of the Arabian Seas, 300.
Navigator Islands, *see* Samoa.
Near-sighted individuals among the islanders of the Pacific, 62, 170.
Negrillo race, 175; Negrilloes of the East Indies, 178, 179; inventions of the Negrillo race, 288.
Negro languages, 193, 197, 198, 203, 207, 232, 233, 287.
Negro race, 187; Europeanised Negroes, 188; Arabised Negroes, 191; Malayised Negroes, 196; Negro residents at the Polynesian, the Feejee, and the East India islands, 189, 190; Negroes figured on the Egyptian monuments, 191; Negroes residing in Arabia, 192, 259.
Nelumbium, 354, 357, 361, 376.
Nepaul, people of, 279.
Nephelium lappaceum, 349.
Nerium Oleander, 391.
Nets of the ancient Peruvians compared with those of the modern Polynesians and Europeans, 13.
Nettle, *see* Urtica.
New Britain, island of, 145.
New Caledonia, island of, 144, 147, 150, 173; Hunter Island, visited, 173.
New Caledonia of North-west America, 25.
New Georgia, or the Solomon Islands, 177.
New Guinea, natives of, 116, 144, 173, 178; the character of the zoological productions, 313.
New Hebrides, natives of, 175.
New Mexico, 112.
New South Wales, visited, 140.
New Zealand, 74; contains neither quadrupeds nor pasturage, 74; an approximation to aboriginal writing, 77; European residents, 77, 78, 239, 283.
New Zealanders, one among the crew of the Vincennes, 58; one in the Samoa group, 69; others at Sydney, 75.
New Zealand flax, *see* Phormium.
Nicander, quoted, 384, 389, 392.
Nicolaus Myrepsicus, quoted, 393.

Nicotiana rustica, 409.
— tabacum, tobacco, 37, 318, 343, 409.
Nigella sativa, 379.
— Damascena, 404.
Nile, its unique geographical position, 308.
Nisqually tribe, 21, 31.
Nitendi group, 177, 299.
Nizam's dominions, 265, 273, 275.
Nootka, or Yookulty tribe, 17, 20.
Nuba, of Central Africa, 192, 208.
Nubians, 211.
Numida, the Guinea-fowl, 339, 350, 387.
Nutmegs, 184, 314, 349, 398.
Nux-vomica, *see* Strychnos.
N'Yambana tribe, of East Africa, 206.
N'Yasa tribe, of East Africa, 204.
Nyctanthes, 365.
Nymphæa lotus, 385.
— stellata, 355, 357, 360, 361, 370.
— cærulea, 361, 370.
— of Zanzibar, 370.

O.

Oahu, in the Hawaiian group, visited, 85, 91, 96.
Oak, 382.
Oases, four principal ones, in the Great Desert of the Eastern Continent, 308.
Oat, *see* Avena.
Ochra, *see* Hibiscus esculentus.
Ocymum, 325, 335, 346, 352.
— basilicum, and O. lignosum, 386.
— sanctum, 328, 335, 366.
Offerings of flowers and fruits in the Hindoo temples, 277.
Oil, poured on wounds by Brahmins, 276.
Okonagan, in Interior Oregon, 24.
Olea sativa, the olive, 365, 375.
Oleander, *see* Nerium.
Olive, *see* Olea sativa.
Oman, or Eastern Arabia, visited, 263.
Ombay, cuirass of, 62.
Omens and auguries not obsolete in the East Indies, 291, 292.
Onion, *see* Allium cepa.
Onobrychis sativa, the sainfoin, 410.
Oozy, a river of East Africa, 198, 199.
Ophir, of Solomon, 245.
Oparo, or Lapa, natives of, 98.
Opium, 381.
Opuntia, *see* Cactus.
Orache, *see* Atriplex, 389.
Oracles at the Feejee Islands, 155; Oracle of Dodona, 192.
Orange, *see* Citrus aurantium.
Orange Harbour, near Cape Horn, 9.
Orangs, three species of, 314.
Oregon, journey into the Interior, 21; sparseness of the population, 25; diversity of races in, 288.
Origanum marjorana, 387.
Origin of navigation, 288, 289, 295, 300, of agriculture, 308; of civilisation, 289, 310.
Orris-root, *see* Iris.
Ornus, *see* Fraxinus.
Orthopogon, 337.
Oryx, 369.
Oryza, rice, 347, 362; constitutes the principal food of the East Indians, 46, 119; rice recognised by some Japanese, 117; cultivated in the Monomoisy country, 203.
Ostrich-eggs obtained in Nubia, 213; a cap of ostrich feathers worn by the M'Kuafi, 224.
Otafuan, or Union Group of coral islands, visited, 60.
Otoe Tribe, 36.
Otuans described, 49.
Oualan, island of, 115.
Ounce, or leopard of India, 275.
Outriggers, the use of, 301.
Ovahs of Madagascar, 137.
Ovid quoted, 387, 393.
Oviedo quoted, 319.
Ovolau, in the Feejee Group, visited, 148.
Oxalis crenata, 238, 310.
— repens, 324, 333.

Oxalis Dieppe, 340.
— corniculata, 405.

P.

Pachicamac, in Peru, visited, 13.
Pachya, 13, 341; the fruit among ancient Peruvian relics, 13.
Pachyrhizus? 327, 333.
Paddle of the Disappointment Islands has the blade curved, 49; the paddle of the Tarawan group, and of the Persian Gulf, 62, 301.
Paintings at Thebes, 257; in the Indian Caves, 353, 354.
Paints, those used by the Chinooks, 18; those used by the Samoans, 71; those used in the Indian caves, 354, 358.
Palawan, Igorote of, 43.
Palmistry, 268.
Panay, Island of, in the East Indies, 124.
Panax cochleatum, 365.
Panax fruticosum, 331, 334, 365.
Pancratium, 405.
Pandanus odoratissimus, 352, 356, 361, 367.
Pandanus utilis, 54, 58; absent from some coral islands, 59, 323, 336.
Panicum crus-galli, *see* Echinochloa.
Panicum, 326, 331, 332, 336.
— Italicum, 376.
— maliaceum, 383.
— capillare, 334.
— colonum, 393.
Papaver somniferum, 381.
Papaver rhœas, 389.
Papaya, *see* Carica.
Paper, manufactured in Central India, 276.
Paper-mulberry, *see* Broussonetia.
Paper-reed, or Papyrus, 370, 372.
Papio, the baboon, 355.
Pappophorum alopecuroideum, 331, 337.
Papuan Race, 146; known to the Ancient Hindoos, 173, 183; the Papuan Archipelagoes, 299.
Papyrus, or Paper-reed, 370, 372.
Paradise-birds, 314.
Parietaria officinalis, 395.
Paritium, *see* Hibiscus.
Parkia, 364.
Parkinsonia, 351, 364.
Parricide an established custom at the Feejee Islands, 155, 166.
Parrot, *see* Psittacus.
Parsees, 194, 248, 273, 275, 278.
Parsley, *see* Petroselinum.
Parsnip, *see* Pastinaca.
Particoloured domestic animals, 273, 310.
Paspalum, 329, 337.
Passiflora, 409.
Pastinaca, the parsnip, 406.
Pastoral nations, 5, 316; the pastoral state unknown in the East Indies, 302.
Patagonia visited, 8, 189, 235, 281.
Patera, 293.
Paumotuans, account of them, 47.
Pavo, the peacock, 354, 357, 361, 377.
Pawnee Tribe, 36.
Peach, *see* Amygdalus.
Peacocks, 354, 357, 361, 377.
Pear, *see* Pyrus.
Pea, *see* Pisum and Cajanus.
Pectocarya penicillata, 319.
Pelargonium, 409.
Pelew Islanders, 116.
Pennisetum typhoideum, 352, 368, 376.
Penobscot Tribe, 37.
Penrhyn Island noticed, 52.
Peony, 393.
Pepper, *see* Piper.
Persepolis, the antiquities at, 353.
Persians, the Modern, 247, 266.
Peru, visited, 22, 189, 236, 282; remarks on the aboriginal civilisation of Peru, 301.
Petroselinum, the parsley, 321, 396.
Phalaris Canariensis, 337, 338, 403.
Pharaonic ages, 373.
Pharnaceum, 331, 334.
Phaseolus vulgaris, kidney beans, 321, 396.
— amœnus, 324, 334.

Phaseolus ?, 348.
Phaseolus mungo, 405.
Phasianus, the pheasant, 387.
Pheasant, *see* Phasianus.
Philippine Islands visited, 119.
Phœnix Group of coral islands visited, 58.
Phœnix dactylifera, the date palm, 255, 348, 352, 356, 361, 367, 373.
Phormium tenax, the New Zealand flax, 78, 408.
Phrenology, 268.
Phyllirea, 390, 396.
Physalis angulata ?, 325, 335.
— edulis, 75, 318, 325, 335, 343.
— somnifera, 396.
— alkekengi, 408.
Physiognomy, diversity of, at Cairo, 258.
Phytolacca, 408.
Pig, figured on the Indian monuments, 361 ; absent in aboriginal New Zealand, 76; abundant at the Feejee Islands, and in the Polynesian Groups, 154, 322; swine seen in Upper Egypt, 212; regarded as unclean by Parsees, Jews, and Muslims. 250; common in the villages of the Dekkan, 273; introduction of the pig into the Mediterranean countries, 332, 373; the pig known at the Comoro Islands, 346.
Pigeon, *see* Columba.
Pimpinella anisum, anise, 385.
Pine-apple, *see* Bromelia.
Pine-nuts, *see* Pinus pinea.
Pinus Coulteri, the seeds eaten in North California, 109.
— pinea, the stone-pine, 389.
— Halepensis, 401.
Piper methysticum, or the Kava, 91, 155, 325, 336.
— nigrum, the black pepper, 212, 367, 391.
— betel, 346, 367.
Pipes, discovered by Davis and Squier, in the ancient mounds of Ohio, 37.
Piscous, a tributary of the Columbia, 24.
Pisonia, 325, 335.
Pisonia ? of the coral islands, 58.
Pistacia lentiscus, 387.
— terebinthus, 378.
— vera, the Pistachio nut, 351, 392.
Pistia stratiotes, 393.
Pisum arvense, 386.
— sativum, 321, 386.
Plane-tree, or Platanus, 382.
Plantago psyllium, 402.
— major, 317, 320, 394.
Platanus Orientalis, 382.
Pleasant Island, a detached coral island, noticed, 62.
Plectranthus crassifolia, 410.
Pleiades, constellation of, 90, 380.
Pliny, plants mentioned by, 394.
Plum, Prunus, 315, 384.
Plumbago, a species, on the Andes of Peru, 309.
— Capensis, 366.
— rosea, 366.
Plumeria, 365.
Plutarch, quoted, 383.
Poa anna, 320, 344.
Poetry, aboriginal, of the Polynesians, 90; *see* Literature.
Poi, or prepared taro, 86; poi, sometimes made of bread-fruit, 93.
Poinciana, 328, 334, 341, 364, 409.
Pokomi Tribe of East Africa, 199.
Political institutions, of the natives of Pleasant Island, 62; of the Taheitians, 63; of the New Zealanders, 76, 77; of the Tonga Islanders, and other Polynesians, 84; of the Hawaiians, 89; of the Californian tribes, and other aboriginal Americans, 108, 294; of the Australians, 144; of the Feejeeans, 156, 157, 166, 167, 174; of the Monomoisy, 203; of the Galla, 219; of the M'Kuafi, 224, 225; of Hindostan, 271; of the Battas of Sumatra, 302; of a wild tribe in the Malay Peninsula, 305.
Polyandry, 279.

Polyanthes, 352, 403.
Polygaleæ, of the Andes of Peru, 309.
Polygamy, at Rotuma, 98; at the Feejee Islands, 156, 170; among the Ethiopian tribes, 221, 223; among the Arabs, 260; among the Indian Muslims, 267.
Polygonum, 325, 335.
— aviculare, 317, 320.
— nigrum, 320.
— persicaria, 321, 406.
— orientale, 406.
— fagopyrum, the buckwheat, 406.
— bistora, 408.
— tinctorium, 409.
Polynesians, account of, 46; numbers of, at the Feejee Islands, 83, 98; origin of the Polynesian arts, 288.
Polytheism, 357.
Pomegranate, *see* Punica.
Pompeii and Herculaneum, visited, 280.
Ponderey Tribe, of Interior Oregon, 26.
Poona, a city in the Dekkan, 273.
Poplar, *see* Populus.
Population of the globe, arranged by races, 285; of America, origin of the, 296; emigration from Africa, 316.
Populus alba, 380.
— tremula, 380.
— nigra, 3°0.
Porpoises, around an uninhabited coral island, 59.
Portulaca, 330, 334.
— two species, wild on the coral islands, 54, 58.
— oleracea, 342, 351.
Potato, cultivation of, communicated to the maritime tribes of north-west America, 16, 319; and, also, to the New Zealanders, 80; the potato cultivated on the Peruvian Andes, 238, 310; cultivated in India and in Equatorial Africa, 349, 352, 366; in Egypt, 408.
Potentilla supina, 405.
Pottery, manufacture of, unknown among the Polynesians, 96; practised by the Feejeeans, 154, 157, 164.
Precious stones, *see* Gems.
Priva lappulacea, 343.
Privet, *see* Ligustrum.
Proas, of the East Indies, 291, 299.
Property, among the Polynesians, 294.
Prunus domestica, and P. insititia, 315, 320, 351, 384.
— Armeniaca, apricots, 320, 351, 397.
— cerasus, the cherry, 320, 390.
Psidium, 348, 364, 407; the guava, has overrun much of the productive soil at Taheiti, 66, 342; local, at the Hawaiian Islands, 85.
Psittacus, the parrot, 387.
Psoralea Palæstina, 405.
Pteropus, at the Samoa Islands, 74.
Ptolemaic constructions, 384.
Puget Sound visited, 21.
Pulo Aor, and Pulo Pedang, 132.
— Mariere, natives of, 116.
Puna, an affection analogous to sea-sickness, accompanying an introduction to the higher region of the Andes, 12.
Punica granatum, the pomegranate, 348, 351, 364, 371, 372.
Purslain, *see* Portulaca.
Pyrus communis, pears, 315, 320, 351, 375.
— malus, apples, 315, 320, 351, 392.
Pythagoras, 384.
Pythons, at Mindanao, 125.

Q.

Quercus, the oak, 382.
Quichua language, 286.
Quince, *see* Cydonia.

R.

Rabbit, 372.
Races of men, enumerated, 1; distribution of, 5; diversity of, in

the different countries visited, 281, 282; countries inhabited by several aboriginal races, 283, 284, 285; population of the globe, arranged by races, 285; relations between the races, 286.
Radack coral group, noticed, 62.
Radish, *see* Raphanus.
Rafflesias, 314.
Rairoa, or Dean's Island, in the Coral Archipelago, visited, 57.
Rajpoots, 267, 275.
Ranunculus Asiaticus, 404.
— sceleratus, 404.
Raphanus, the radish, 347, 350, 363, 371.
Raraka, in the Coral Archipelago, 55.
Raratonga, or Hervey Group, several natives of, 98.
Rat, a species, on most of the coral islands, 58, 59, 322.
Rattans, in the East Indies, 122.
Rebo, of the Pharaonic monuments, 263.
Red and white, the favourite colours with the Feejeeans and Telingans, 151.
Reed, *see* Arundo.
Reseda luteola, 393.
Resin, of a species of Dammara, used for glazing pottery at the Feejee Islands, 163.
Rewa, town of, in the Feejee Group, 156.
Rhapis acicularis, 326, 337.
Rheum, rhubarb, 392, 399.
Rhinoceros, of Sumatra, 314.
Rhubarb, 392, 399.
Rhus coriaria, 402.
Rhynchospora, 331, 337.
Ribes rubrum, the currant, 321, 406.
— grossularia, the gooseberry, 321, 406.
Rice, *see* Oryza.
Ricinus communis, 88, 325, 332, 335, 346, 367, 396.
Ricinus (?) Tanarius, 330, 335.
Rio Janeiro, visited, 7, 234, 281.
Rio Negro, in Patagonia, visited, 8, 189, 235, 281.
River mussels, *see* Unio.
Robinia pseudacacia, 407.
Rosaries, 242.
Rose, 380.
Rose Island visited, 58; its Flora consists of but two species of plants, 58.
Rosemary, 378.
Rosmarinus officinalis, the rosemary, 378.
Rotuma, natives of, 98, 164.
Rubia tinctorum, madder, 388.
Rubus fruticosus, 405.
Rue, 386.
Rumex acetosa, and R. acetosella 395.
— obtusifolius, 395.
— patientia, 392.
Ruscus, 390.
Rushes, *see* Scirpus lacustris.
Ruta graveolens, the rue, 386.
Ruta Halepensis, 407.
Rye, *see* Secale.

S.

Sacalava, of Madagascar, 187, 197.
Saccharum officinale, the sugar-cane, 326, 332, 337, 347, 352, 362, 397; used for building at Tongataboo, 81; and at the Feejee Islands, 157; cultivated in East Africa, 200, 203.
Sacramento River, in North California, 103.
Sacrifices of animals in Hindostan, 272; offerings of flowers and fruits, 277; altars and sacrifices among the East Indians, 291.
Safflower, or Dyer's saffron, Carthamus, 365, 381.
Saffron, *see* Crocus and Carthamus.
Sahara, Desert of, 5, 307; inhabitants of its western portion, 308.
Sails, rarely seen among the tribes of North-west America, 17; not seen at certain coral islands, 53
Sainfoin, *see* Onobrychis.
Saline efflorescences, in Northern Oregon, and in New Caledonia,

25; in North California, 102, 111.
Salix Babylonica, the weeping willow, 401.
Salmon, in the Columbia River, 22; in the Sacramento River, 104; in the Shasty River, 110.
Salsify, *see* Tragopogon.
Salt is now extensively manufactured at the Hawaiian Islands, 85; little used by the Feejeeans, 154; procured in the Monomoisy Country, 203.
Salutation; none among the maritime tribes of North-west America, 14.
Salvadora Persica, 366, 394.
Salvia officinalis, 394.
Salvias, of the Andes of Peru, 309.
Sambucus nigra, 390.
Samoa, or Navigator Island, visited, 68; Samoans, at Tongataboo, 83; European residents, 71, 239, 282.
Samoiedes, 44.
Sanctuaries, common to various Oriental and ancient forms of worship, 175.
Sandal-wood, *see* Santalum.
Sandalwood, or Mbua Bay, in the Feejeean Group, 161, 166.
Sandwich Islands, *see* Hawaiian Islands.
San Francisco, in North California, visited, 99, 238, 282.
Sanscrit Language and Literature, 184, 232, 257, 270, 272.
Santalum, sandal-wood, 366, 400.
Sapindus ryteh, 402.
Sapium sebiferum, 330, 335, 338, 367.
Saponaria officinalis, 405.
Sauk Tribe, 36.
Savaii, in the Samoan Group, visited, 70.
Scævola lobelia, 61.
Scalping, not practised by the Californian Tribes, 108; the process described by Herodotus, 294.
Scammony, 392.
Scilla maritima, 384.
Scincus, certain species, on the coral islands, 59, 323.
Scirpus lacustris, mats made of, in Oregon, 17; and in California, 102; roots of, eaten by the Californians, 102; the plant covers extensive tracts along the Sacramento River, 103.
Scolopendra or centipede, 339.
Scorpion, 339, 357.
Sculptures, on the Columbia River, 35.
Scutellaria, of the Andes of Peru, 309.
Scythian tribes, 5.
Sea-birds, on Rose Island, and other coral islands, 58.
Sea-weeds, various esculent species, at the Hawaiian Islands, 91, 92; and also a poisonous species, 92.
Sebesten, *see* Cordia crenata.
Secale cereale, rye, 320, 370, 383.
Seclusion of women, 40, 185, 230 235.
Sedum, 395.
Seheery Coast, of Arabia, 263.
Seminole Tribe, 37.
Senebiera didyma, 340.
Senecio vulgaris, 405.
Senecios, of the Andes of Peru, 309.
Senna, 398.
Serapio quoted, 399, 400, 406.
Serle Island, in the Coral Archipelago, visited, 48.
Seroor, or Gorputi, in the Dekkan, 274.
Sesamum, 348, 365, 385.
Sesbania Ægyptiaca, 364, 402.
Setaria, 368.
— viridis, 403.
— verticillata, 403.
Seychelles, 314.
Shaddock, *see* Citrus decumana.
Shark-hooks, made of wood, at certain coral islands, 61.
Shark-teeth saws, of the Tarawan coral group, 62.
Sharks, at an uninhabited coral island, 49.
Shasty Tribe, of Western Oregon, 110.

Sheep, known in the Monomoisy Country, 204; the Somali variety, 216, 225; sheep, known to the M'Kuafi, 225; sheep of the Dekkan, 273; a peculiar variety, figured on the most ancient Egyptian monuments, 315, 369; sheep, introduced into Oregon, 320; into the Polynesian Islands, 339; figured on the Indian monuments, 360.
Shortsightedness, at the Tarawan coral group, 62; at the Feejee Islands, 170.
Shoshonee, or Snake Tribe, 112.
Siamese, 137, 292.
Sicily visited, 280.
Sicyos angulata, 334, 338, 342.
Sida, 327, 333.
— a double-flowered variety, 324, 333.
— abutilon, 406.
— mutica, 405.
— spinosa, 405.
Sikhs, 247.
Sikirwashi, of East Africa, 225.
Sikligur, 279.
Silk-worms, introduced into the Hawaiian Islands, 96; into the Mediterranean countries, 398.
Siegesbeckia Orientalis, 328, 335, 338.
Simpson, T. Beckford, his account of Pleasant Island, quoted, 62.
Sinapis, mustard, 386.
Sindians, 247, 265, 267.
Singapore visited, 132, 135, 178, 181, 185, 209, 210, 228, 242, 245, 247; diversity of races at, 283.
Sioux Tribe, 36.
Siser of Varro, 397.
Sium sisarum, the skirret, 397.
Siva, worship of, 277, 280, 359.
Skin lodges seen in Interior Oregon, 27.
Skirret, *see* Sium sisarum.
Slavery among the Chinooks, 19; among the Muslims, 191, 196, 198, 206, 211, 268.
Slings used by the Fuegians, 10; by the ancient Peruvians, 13; not used by the New Zealanders, 76.
Smallage, *see* Apium.
Smoking practised, as shown by Davis and Squier, by the ancient inhabitants of the valley of the Ohio, 37.
Snake, or Shoshonee Tribe, 112.
Snowy Mountains of Northern Oregon, 21, 24, 25, 31.
Saohili, a Muslim nation of East Africa, 192; their language, the medium of commercial intercourse along the coast, 192, 287; their trading excursions into the interior, 197, 199, 201.
Socotra, natives of, 265.
Soil and territorial surface of three principal kinds, 4.
Soils, their different qualities, distinguished by Polynesians, 81.
Solanum, 331, 335, 343, 366.
— pseudocapsicum, 402.
— repandum, 328, 335.
— aviculare, 335, 338.
— dulcamara, 392.
— tuberosum, *see* Potato.
— nigrum, 317, 318, 325, 332, 335, 343.
— melongena, the egg-plant, 321, 348, 352, 366, 401.
— lycopersicum, the tomato, *see* Lycopersicum.
Solomon Islands, or New Georgia, 177.
Somali, 213, 215; writers and learned men, among them, 218.
Sonchus, 343.
— oleraceus, 320, 335, 338, 343, 394.
Sooloo, island of, in the East Indies, 127; negrilloes of Sooloo, 179; diversity of races at, 283.
Sophora, 364.
Sorghum, the dourra or juari, 348, 352, 368, 399.
Southern Hemisphere, the climate of, 9, 10; its aboriginal tribes compared, 74.
Southern Ocean, tempestuous, 9, 76.

Spars imported by sea by the ancient Egyptians, 375.
Spears used at Zanzibar, 196; and in the Thebaid, 212; used by the Somali and Galla, 218, 220; used by the Mussai, 225; used by the Brinjarry, 278; used in the East Indies, 291.
Species, among plants and animals, have a certain geographical range, 312, 313.
Spelt, *see* Triticum.
Sphæranthus, 393.
Sphenoclea, 393.
Spikenard, 380.
Spilanthes acmella, 409.
Spinach, 400.
Spinacia, or spinach, 400.
Spipen River, of Interior Oregon, 22, 31.
Spirit-houses of the Polynesians, 60, 72.
Spokane tribe of Interior Oregon, 26.
Spondias, the vi-apple, 153, 327, 333, 341.
Squash, *see* Cucurbita.
Squill, 384.
Stachytarpheta, 343, 366.
Steam employed to induce perspiration in Interior Oregon, 25.
Stellaria media, 405.
Sterculia, 407.
St. Helena visited, 187, 190, 284.
Stockaded villages among the maritime tribes of North-west America, 15; of the New Zealanders, 76; of the Feejeeans, 162; of the Monomoisy, 203.
Stone hatchets found in Peru, 13; not seen in Oregon, 17; stone hatchets of North-east America, 37.
Strawberry, *see* Fragaria.
Strychnos nux vomica, 408.
Suæda hortensis, 379.
Sudras, a Hindoo caste, 184, 268, 271.
Suez visited, 192, 259, 261.
Sumatra, 135.
Sugar cane, *see* Saccharum.
Sunday Island sighted, 79.
Superstitions, 291, 305.
Surat cloth, 266.
Surgery among the Feejeeans, 170; among the modern Persians, 266.
Swain's Island, in the Union coral group, noticed, 61
Sweating-houses of Interior Oregon, 25.
Sweet potatoes, *see* Convolvulus.
Swine, *see* Pig.
Sycamore, 375.
Sydney, in New South Wales, visited, 140, 189, 283.
Syrians, 258.
Syringa, the lilac, 406.
Syrinx, or Pipe of Pan, used by the Feejeeans, 152, 293.

T.

Table-land of Oregon, 24; and of Southern India, 272; their geological structure compared, 276; table-lands are the birthplaces of civilisation, 310.
Taboo, instances of, 64, 77; among the Feejeeans, 156.
Tacca pinnatifida, 55, 326, 336, 347; arrow-root obtained from, at the Hawaiian Islands, 26; and at the Feejee Islands, 165.
Tachypetes, frigate-bird, plumes of, 104.
Tagala of Luzon, 119, 286, 292.
Tagetes, 277, 365, 410.
Tahelti visited, 63; European residents, 65, 239, 282.
Taheitian visiters, 55, 68, 96.
Tahkali tribe of North-west America burn their dead, 25.
Takwani tribe of East Africa, 206.
Taiara, in the Coral Archipelago, 55.
Talinum patens, 342.
Tamarix? Orientalis, 401.
Tamarindus, 364, 399.
Tamul people, 138; Tamul language, and literature, 184, 277.
Tanacetum vulgare, the tansy, 409.
Tansy, 409.

Tanna, in the New Hebrides Group, 176.
Tapir of Sumatra, 314.
Tapti, a river of Hindostan, 275.
Tarawan, or Kingsmill coral group, 61.
Taro, *see* Colocasia.
Tarsier, 314.
Tartar tribes, 5.
Tasmania, or Van Dieman's Land, natives of, 145.
Tattooing not practised at certain coral islands, 53; the chequered pattern of the Western Paumotuans, 56; the New Zealand pattern, 77; the Samoa and Tonga pattern, 82; the Hawaiian pattern, 89; the practice of tattooing among the Californians and the maritime tribes of North-west America, 105; not seen in the East Indies, 120; tattooing among the Feejeeans and the modern Arabs, 151, 261; among certain Ethiopian tribes, 212.
Tauai, or Kauai, in the Hawaiian Group, visited, 91.
Tavaita tribe of East Africa, 201.
Teak, *see* Tectona.
Tectona, the Teak tree, 366.
Telingan, or Indian race, 180; Telingans, two Lascars at Sooloo, 128, 181; Lascars at Manila and at Singapore, 181, 299; at Sydney, at Oahu, and in company with European residents at the Feejee Islands, 185, 186; Telingans of Western Hindostan, 186; of the Persian Gulf, 186; of Madagascar, 187; mixed Telingans among the Jews, 242.
Tephrosia piscatoria, 324, 333, 346.
Terebinth tree, *see* Pistacia.
Terminalia, 407.
— catappa, 331, 334, 346, 351, 364.
Teucrium scordium, 394.
— marum, 394, 395.
— iva, 405.
Tern, in a half-domesticated state, at a coral island, 56; tern and other sea-birds at Rose Island, and other coral islands, 58, 59.
Ternati, an island in the East Indies, natives of, 130.
Terra del Fuego visited, 9, 281.
Thalia dealbata, 408.
Theatrical performances among the Chinese, 41; among the Eastern Hindoos, 181.
Thebes visited, 211, 257.
Theocritus quoted, 392.
Theophrastus, plants mentioned by, 387.
Thespesia populnea, 323, 333, 350, 363.
Thlaspi bursa-pastoris, 320.
Thuya Orientalis, 382.
— Occidentalis, 407.
Tibboo, of the Sahara, 213.
Tidore, in the East Indies, 178.
Tigers at Singapore, 133.
Tikehau, in the Coral Archipelago, 57.
Tikopia, island of, 299.
Timber rafts in the Feejee Islands, 157.
Ti-plant, *see* Dracæna.
Tobacco, 318; pipes discovered by Davis and Squier in the ancient mounds of Ohio, 37.
Tofooa, in the Tonga Group, contains an active volcano, 79.
Toka, a town in the Dekkan, 274.
Toltecas, 113.
Tomahawk not used by the Californian tribes, 108.
Tomato, *see* Lycopersicum, 321.
Tongataboo, the centre of navigation in Western Polynesia, 56; the island visited, 80; composed of coral, 80; natives of, at the Feejee islands, 83; Feejeean visiters at Tongataboo, 147; European residents, 81, 239, 282; diversity of races at, 282.
Torres Straits, 144.
Traditions of the natives of the Tarawan coral group, 61; of the natives of Pleasant Island, 62; of New Zealand, 75.

Tragopogon, salsify, 392.
Tribulus, 340.
Tridents, figured in the Indian caves, 358.
Trifolium Alexandrinum, 388.
— procumbens, 405.
Trigonella fœnum Græcum, 364, 381.
Triticum, wheat, 320, 362, 370.
— spelta, 370.
Triton variegatum, the war conch, 56.
Trogon, 125.
Tropæolum majus, 409.
— tuberosum, 238, 310.
Tropæolums of the Andes of Peru, 98.
Tropics; the Valley of the Nile, the only tropical country known to the ancient Greeks and Romans, 256.
Tulipa, 406.
Turkey, the domesticated bird, 311, 339, 348, 407.
Turks, 254, 258; Turkish power on the Euphrates, 246.
Turmeric, *see* Curcuma.
Turnspit, 315.
Turtle, mutilated by sharks, at uninhabited coral islands, 49; turtle-pens at the Feejee Islands, 164.
Turnip, *see* Brassica rapa, 340.
Tutui-nut, *see* Aleurites.
Tutuila, in the Samoan group, visited, 73.
Typha, 344; used for building, by the New Zealanders, 77.

U.

Uea, or Wallis's Island, visited, 97.
Ulmus campestris, the European elm, 381.
Umbrellas, Chinese, 39, 128; umbrellas are figured on the Indian monuments, 356, 357.
Umpqua tribe, of Western Oregon, 32.
Unio, river-mussels; used for food by the California tribes, 106, 107.
Union, or Otafuan group of coral islands noticed, 60.
United States, diversity of races in, 1, 190, 281, 287.
Upolu, in the Samoan group, visited, 69.
Upsaroka, or Crow tribe, of the Rocky Mountains, 36.
Urena, 331, 333.
Urena lobata, 327, 333, 340.
Urtica, a species in a Fuegian hut, 9.
— urens, 343, 405.
— dioica, 405.
— pilulifera, 405.
— nivea, 408.
Urticaceæ, not seen in New Zealand, 78.
Urticac. incert., 330, 332, 336.
Uvaria aromatica, 400.

V.

Vachellia, 341, 364, 407.
Vaitupan, or Ellice Coral Group, 61.
Valparaiso visited, 11, 189, 236, 281.
Vancouver, in North-west America, a garden at, 319.
Van Dieman's Land, or Tasmannia, natives of, 145.
Vanikoro, in the Nitendi group, 177, 288.
Vanilla, 408.
Vanua-levu, in the Feejee group, 162.
Varieties among animals and plants, 314.
Varro, quoted, 372, 392, 397.
Vatu-lele, in the Feejee group, an elevated coral island, 161.
Vavao, natives of, 80.
Vazimba of Madagascar, 187.
Vegetation of different countries, 308; of the Andes of Peru, 308.
Vegetius, quoted, 392.
Verbascum, 395.
Verbena citriodora, *see* Aloysia.
— officinalis, 405.
— supina, 405.
Verbesina (?) biflora, 330, 334.
Veronica anagallis, 405.

Veronica beccabunga, 405.
Vessels, of the Chinese, 42, 300; of the Western Paumotuans, 56, 57, 297; of the Eastern Polynesians, 80, 298; of the Banians of Cutch, 269; proas of the East Indies, 291, 299; of the Japanese, 297; of Southern Hindostan, 300; Arab dows, 300.
Vesuvius, 280.
Vetch, *see* Vicia.
Vi-apple, *see* Spondias.
Vicia faba, 379.
— sativa, 381.
— lutea, 388.
Villarsia, 331, 335.
Vinca rosea, 404.
Viola odorata, 382.
Virgil quoted, 381, 393.
Vitex agnus-castus, 390.
Viti-levu, in the Feejee group, 156, 161.
Vitis vinifera, the grape, 320, 349, 350, 363, 370.
Volcano, on Savaii, in the Samoa group, 70; on Tofooa, in the Tonga group, 79; on Hawaii, 92, 93; on Maui, in the Hawaiian group, 95; Vesuvius visited, 280.

W.

Wabiza, or Moviza tribe, of East Africa, 203, 204.
Wahabi, 252.
Wakamba, Makamba, or Merremengo tribe, of East Africa, 200, 224.
Wake's Island, a detached coral island, visited, 59.
Wakondy tribe, of East Africa, 205.
Wallawalla, in Interior Oregon, 29.
Wallis' Island, or Uea, visited, 97.
Walnut, *see* Juglans.
Wamera tribe, of East Africa, 205.
Wampugo tribe, of Eastern Africa, 200, 223, 224.
Wampum, among the Chinooks, 17; in Interior Oregon, 26; among the Californian tribes, 109.
Wanika, or M'nika tribe, of East Africa, 198, 200.
War-conch, Triton variegatum, 56.
Wars among the Taheitians, 65; among the Samoans, 68, 69, 72; among the New Zealanders, 76; of the Tonga Islanders, 80; of the Feejeeans, 158; of the ancient Egyptians, 257; wars unknown among certain East Indian tribes, 305.
Wataiata tribe, of East Africa, 200, 223.
Water, modes of procuring, at the coral islands, 60; and in lava districts, at the Hawaiian Islands, 95.
Water-melon, *see* Citrullus.
Water-proof baskets, used in Oregon, 17, 23; and by the Californian tribes, 102.
Weapons of the Patagonians, 8; of the Fuegians, 10; of the natives of Good-success Bay, 11; of the ancient Peruvians, 13; of the Samoans, 73, 74; of the New Zealanders, 76; of the Tonga Islanders, 80; of the Hawaiians, 89; of the Californian tribes, 104; of the natives of Sooloo, 128; of the Australians, 142; of the Feejeeans, 152; of various East African tribes, 195, 199; of the inhabitants of the Thebaid, 212; of the Galla, 220; of the Mussai, 225; of the Bhills and the Brinjarry, 278; of the ancient Hindoos, 354, 357, 358.
Weeds accompanying the Fuegians, 9.
Weembi, *see* Eleusine.
West Indies, aboriginals of, 113, 114, 297.
Whale-teeth, formerly prized by the Hawaiians, 88; extravagantly prized at the Feejee Islands, 163.
Whales captured by the Chinooks, 17, 18; but not by the islanders of the main Pacific, 163.
Wheat, *see* Triticum.
White and red, the favourite colours with the Feejeeans and Telingans, 151.

White race, 231; its first appearance in Egypt, 214; origin of, 279.
Winnebago tribe, 36.
Wolf, the Coyota of California, 106, 317; the Australian wolf, 143.
Wool of the guanaco made into yarn by the natives of Good-success Bay in Terra del Fuego, 11; of the mountain goat, woven into blankets by the Chinooks, 17.
Woven cloth known to the ancient Peruvians, 13; blankets manufactured by the Chinooks, 17.
Wreaths, a favourite ornament with the Malayan tribes, 46; sometimes worn by the Californians, 108.
Writing, the nearest approach to, among the Polynesians, 77; antiquity of the art, 370.
Wyse, or mercantile caste of Hindoos, 271.

X.

Xanthium strumarium, 343, 405.

Y.

Yak, or mountain bullock of Thibet, 354.
Yakima River, of Interior Oregon, 23, 30.
Yam, *see* Dioscorea.
Yellow, the favourite colour with the Malayans, 46.
Yew, bows made of, in California, 109.
Ygorotes of Luzon and Palawan, 43, 127.
Yoktan, or Kahtan Arabs, 262, 264.
Yookulty, or Nootka tribe, 17, 20.
Yucatan, antiquities of, 36.
Yucca, 409.
Yuchi language, 287.

Z.

Zakkoum oil, 385.
Zanzibar, a Chinese residing there, 43; American negroes residing there, 190; Zanzibar visited, 192, 267; the aboriginals of Zanzibar, 197; diversity of races at, 284.
Zapania nodiflora, 405.
Zea mays, 408; among ancient Peruvian relics, 13; its cultivation introduced into New Zealand, 78; a tradition respecting its cultivation in Mexico, 113; maize recognised by some Japanese, 117; cultivation of, in the East Indies, 125; in East Africa, 200, 203, 349; in Aboriginal America, 318; by the Oregon emigrants, 321.
Zingiber officinale, the ginger, 203, 347, 397.
Zingiber zerumbet, 325, 336.
Zizyphus, 347, 351, 364.
— lotus, 363, 375.
— vulgaris, 385.
Zoological considerations, 311.

THE END.

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